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Case No. 18325

IN THE NINTH JUDICIAL DISTRICT COURT
OF THE STATE OF NEVADA
IN AND FOR THE COUNTY OF DOUGLAS

WILLIAM CODY KELLY, TRUSTEE
Under Trust Dated December 12 1962,
Plaintiff,

vs.

TAHOE REGIONAL PLANNING AGENCY,
Defendant.

/

DECISION

TABLE OF CONTENTS

[All page references herein are to this Appendix B]

I.	INTRODUCTION	3
II.	BRIEF HISTORY OF THE CASE	4
III.	WHAT HAPPENED AT TRIAL	9
IV.	FIRST CONCLUSION	51
V.	FIRST DISCUSSION	51
VI.	SECOND DISCUSSION; THE TAKINGS ISSUES	73
VII.	SECOND CONCLUSION	89
VIII.	THIRD DISCUSSION; THE "ADJUDICATED RIGHTS" CONTROVERSY	89
IX.	THIRD CONCLUSION	100
X.	CONCLUSION	10

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I. INTRODUCTION:

On the surface, this case involves six or seven lots on a ridgeline above the eastern shore of Lake Tahoe. In another sense, it also impacts upon the future of the Tahoe Regional Planning Agency, and perhaps even upon the future of Lake Tahoe. The attorneys tried the case in a manner suggesting that they were ever mindful of these deeper implications. Appearing on behalf of Plaintiff William Cody Kelly were Daniel R. Walsh, Esq. and Jon Yaple, Esq.; appearing for the Tahoe Regional Planning Agency was Gary Owen, Esq.; appearing for the State of California was Deputy Attorney General, Richard Skinner, Esq. From time to time Marta Adams, Esq. and other deputies from the Nevada Attorney General's Office appeared for the State of Nevada. Dozens of witnesses were called; hundreds of Exhibits were marked and admitted; the parties and their counsel have been through the ordeal of an extensive briefing schedule, both before and

after trial. Assuming it can ever claim to be in such a position, the Court considers itself to be sufficiently advised in the facts and the law to render this Decision.

A section containing a "Brief History of the Case" and a section entitled "What Happened at Trial" precede three Discussion sections. Each Discussion section either begins or concludes with a pivotal Conclusions statement disposing of a major issue. Because of the nature of the case, this decision is lengthy.

II. BRIEF HISTORY OF THE CASE:

The hilltop lots the subject of this controversy are located in a planned unit development called Uppaway, just south of historic Glenbrook, Nevada. In a way, the relevant history of Uppaway goes back to the start of planning and development in the Tahoe basin.

The Max C. Fleischmann Foundation first commenced a cooperative planning association for the whole lake basin in 1957. Somewhat ironically, Mr. Kelly acquired his forty-four (44) acre parcel, popularly known as the old Fleischmann estate, from the heirs of Sara Hamilton Fleischmann almost ten years later.

In the late fifties local authorities were approving about 1000 lots a year at the Lake. Then, during the early sixties this figure almost doubled, and by 1963 there were almost 15,000 lots on subdividers' maps. Concerned over pollution, the Lake Tahoe Area Council, formed in 1959, began work on a plan they called the "1980 plan", dubbed such because it purported to look forward to how the basin would look in that year.

By the time Mr. Kelly acquired his property, the California counties had adopted the "1980 Plan", which foresaw a basin with a population (including tourists) of 313,000 people (up from 126,300 in 1962). But the Nevada counties

refused to consider a development "freeze", and Washoe County in particular rejected the "1980 Plan".

The same year that the Nevada and California legislatures passed the TRPA legislation, (1968) no less than 3,462 lots were created by landowners, and this surge in development continued over the next three years while Congress was ratifying the TRPA legislation and the initial Plan was being drafted.

Mr. Kelly did not join this early "push" toward development, however, since he didn't proceed with his plans for development at Uppaway until 1973 when he first appeared before the Douglas County Planning Commission. His development called for the creation of thirty-nine so-called "lots" or 2,500 square foot building "envelopes"; it was approved by Douglas County in 1974 and Mr. Kelly went on to the TRPA where he presented his proposal to the Board in 1975. All of the remaining acreage in his subdivision was dedicated to common area and common amenities such as a pier, a barbeque and a tennis court. The subdivision was then, and is now, characterized by three relatively discrete sections — the Lakeshore parcels, the mid-level or so-called tennis court lots, and the hilltop lots.

The TRPA Compact at that time had an amended "dual majority" feature which curtailed affirmative planing controls by the Agency unless a majority of *both* state representatives approved. Mr. Kelly didn't win a majority vote before the TRPA, but he claimed his subdivision was "deemed approved" under the Compact language. The TRPA thought differently and sued.

On October 24, 1975, Federal District Court Judge Bruce Thompson agreed with Mr. Kelly's interpretation of the Compact and held that TRPA's failure to take action on the subdivision application within sixty (60) days caused it to be "deemed approved."

For the next several years, TRPA kept busy revising its Compact to assert more direct authority over development, and Mr. Kelly kept busy revising and preparing his subdivision for residential sales.

He created the Uppaway Development Company, a Nevada corporation, and had the family trust, which owned the land, deed 28 of the 39 lots to the company, retaining ownership of eleven (11) lots and the common areas. He also completed the first two phases of the subdivision — the lakefront and the tennis court area — with no less than six amended maps that had the effect, among other things, of reconfiguring many of the box-like building "envelopes" on the lakefront so that they would be more suitable for executive homes.

In the meantime, the TRPA had embarked upon a tortuous path leading eventually to the 1987 Regional Plan. By 1982 and Environmental Impact Statement had been drafted and the TRPA had adopted "carrying capacities" for the Lake. The early eighties also marked the establishment of the Lake Tahoe Interagency Monitoring Program (hereafter LTIMP) which created monitoring stations on selected streams and buoys to record changes in the environment.

In 1982, Mr. Kelly began to focus on the hilltop and after extensive discussions with Agency staff, he filed a Seventh Amended Map which eliminated lot 39 and changed the manner of access to the hilltop. By this time, TRPA Ordinance 81-5 was in effect. A planning team implementing this ordinance and evaluating all subdivisions in the basin had not felt that Mr. Kelly's third phase — the hilltop — was adequate under the Water Quality Management Plan. The significance of this adverse rating prevented individual building site applications at the hilltop from being processed on a case-by-case review basis. Serious penalties attended violations of the ordinance.

Without formally withdrawing its finding of inadequacy, the Agency accepted Mr. Kelly's mid-summer applications

for case-by-case review concerning the six remaining hilltop lots, 33 through 38, but by the time they got around to opening the files (hundreds of such reviews were pending), it was wintertime and snow prevented the necessary on-site inspections.

In 1983, further negotiations were being conducted and the off-site improvements for the hilltop lots were being completed but no action had been taken on Mr. Kelly's applications by late August when the TRPA, fearing litigation, placed a moratorium on its processing of all building applications.

By the spring of the following year the TRPA adopted its Amended Regional Plan and moved toward lifting its self-imposed moratorium, only to be met with a lawsuit brought by the State of California. The Federal District Court in California issued a temporary restraining order and, eventually, a preliminary injunction, which froze all applications in place pending the outcome of the lawsuit.

Over three years elapsed before the lawsuit was dismissed by agreement. Settlement talks in 1984 led nowhere until something called Consensus Building Workshops were held in 1985 and 1986. These extensive workshops led to revised goals and policies which were adopted by the TRPA in 1986 and 1987. They also gave birth to "IPES" or the Individual Parcel Evaluation System which is being challenged by the instant lawsuit.

Realizing that "IPES" would let him apply for a building permit on perhaps only one of his hilltop lots and having spent several years battling to get the hilltop open for a sales program, Mr. Kelly filed this lawsuit on July 24, 1987. In a multi-count complaint against the TRPA and the states of Nevada and California, Mr. Kelly alleged that he had been effectively denied the protections of the due process and equal protection clauses under both state and federal constitutions; he claimed that his property has been inversely condemned; he claimed that the IPES rating system which

continues to further postpone his building plans has no rational basis in science or logic and for this reason is constitutionally defective; he claimed civil rights violations under 42 USC section 1983; he claimed vested rights and estoppel; and, finally he claimed that the Tahoe Regional Planning Agency has become an agent of the states who are vicariously responsible in damages for TRPA's allegedly confiscatory activities.

In a twenty-two page order dated August 23, 1989, this Court granted partial summary judgment and indicated its intent to dismiss the state defendants (that decision will be confirmed at the end of this opinion). The Court also dismissed a number of counts. Left for trial were three major issues with a number of subtopics. Basically, they are:

1. Whether there is a legally substantive rational basis for the TRPA's administrative regulations;

2. Even assuming the rationality of TRPA's rules, has its conduct given rise to a cognizable "takings" claim. A major subtopic here concerns the economic impact of the regulations on the Plaintiff's particular investment expectations for his property; and

3. Whether the Plaintiff, who has been ruled not to have a vested right to building permits, nonetheless has an already-adjudicated position which exempts him from some, but not all, of the TRPA's current administrative regulations governing construction on the hilltop.

This concludes the Brief History section which has remarked on events transpiring over the last forty years or so. The next section, which remarks upon what happened at trial, concerns man's efforts to understand what has transpired at Lake Tahoe during the Quatenary period of the last two million years, or so.

III. WHAT HAPPENED AT TRIAL:

The controversy between William Cody Kelly and the TRPA is defined by trial exhibits and by trial testimony of witnesses who were for the most part experts in one field or another. There were almost five weeks of testimony and thousands of pages of exhibits. To place the Discussion Sections which follow into proper context, the Court is going to go through a somewhat tedious process of summarizing the testimony of every witness who appeared. A few preliminary comments are in order, however, so as to acquaint unfamiliar readers with some of the special lexicon used by these witnesses.

"Nutrients", for example, have a negative meaning in this case. Basic nutrients such as nitrogen and phosphorous are the elements which cause lake-fouling algae to flourish in an otherwise inhospitable or "infertile" Tahoe basin environment. The TRPA's premise is that man's activities are bringing these unwanted nutrients as well as inorganic sediments to the lake, causing loss of water clarity and accelerating the "eutrophication" process, or the gradual deterioration of water quality in the lake.

The lake basin is relatively "infertile" because most of its soil types are "granitic", or evolve from the granite and granite-like rock outcroppings which dominate the landscape in this region of the Sierra Nevada Mountains. Eons ago, glacial advances and retreats ground and scoured Tahoe's basin clear to baserock. As a consequence most deposits of offending nutrients as well as their transport, uptake and transformation take place in a relatively clean and thin veneer of sandy soil, pine needles, and "humus", or so-called "grus" which overlies the scoured granite. This is Tahoe's rather poor excuse for topsoil. In this sense the Tahoe basin is impoverished because it lacks rich, fertile, loamy soil, but it is also for this exact reason that Tahoe itself is so magically pristine and free of fouling organisms.

TRPA's Individual Parcel Evaluation System, or "IPES" is based on theories of prospective nutrient transport from individual lots. Thus, the whole IPES system talks in terms of "erosion hazard", "runoff potential", proximity to the lake itself or to streamzones, slope, lot size, vegetation, etc. IPES makes certain conclusions or assumptions; assumptions about erosion in "granitic" and relatively sandy soil types such as "Cagwin" or "Toem" soils; assumptions about slope and vegetation; assumptions about runoff potential; assumptions about primary "nutrient-loading" sources. These assumptions and others are the very subject of the attack by Mr. Kelly and his experts.

One final preliminary thought. The summaries which follow highlight the Court's recollection of key pieces of testimony. They are not meant to be comprehensive and are offered for context, not as findings. They are prone to human frailties of memory loss and limited recall, and they are probably specially deficient in a number of areas, particularly those involving science and mathematics.

For reasons which become clear later, not too much attention is given to testimony involving Mr. Kelly's investment decisions and realizations. Many of the sketches are very summary in nature, but it is hoped that they collectively show how this unusual case is now "at issue", to use legal parlance.

* * * * *

PLAINTIFF'S CASE

The first witness called for the Plaintiff, and declared an adverse witness, was MR. GORDON BARRETT, who has for many years been the Senior Planner for the Tahoe Regional Planning Agency. He traced his understanding of the history of the Uppaway development leading up to a subdivision site plan which he signed off on July 22, 1982. Mr. Barrett took

the position that the Federal Court decision which "deemed approved" Mr. Kelly's subdivision, did not exempt the developer altogether from compliance with existing and changing TRPA regulations. This was especially true, he felt, for any major changes in the coverage of the subdivision, such as changing the hilltop access from a funicular tram to a paved roadway. It was also his position that Ordinance 81-5 required the case by case review of the building plans for each of the individual homes to be constructed on the hilltop. Thus, applications to approve plans for houses differed, in his mind, from the already approved configuration for roads, curbs, gutters, etc. He denied any intent to single out Mr. Kelly's subdivision for harsh treatment during the application process.

* * * * *

Next to testify was Ernie Jones, who is a registered civil engineer with considerable experience in the Lake Tahoe Basin. Mr. Jones designed most of the drainage and erosion control measures for the Uppaway subdivision, utilizing Ray Smith's Report (Exhibit 39).

In Mr. Jones' design, hard roadway surfaces tilt inward toward specially designed infiltration trenches, working together with slope stabilization measures on both sides of the roadways. This design feature decreases the amount of siltation which might reach the Lake. The infiltration system itself was purposefully "over-designed" to protect against fifty year storm events, since the TRPA regulations at the time (and still) only required twenty year, one hour storm event mitigation measures.

On cross examination, Mr. Jones admitted that the accumulation of silt and sediment in the infiltration trenches and junction tubes would render the entire system less effective. Theoretically, both the top and bottom of the trench could eventually fill with relatively impervious material and cause the system to overflow. He stated that this phenomena could be avoided, however, by periodic

cleaning or replacement of the trapped sediments following inspections conducted at least semi-annually.

* * * * *

MR. RONALD W. TURNER, a professional land surveyor was called by Mr. Kelly to support his contention that some of the hilltop lots were repositioned for the primary reason that they would be placed on ground having a 30% or less slope, which Mr. Barrett had testified as being one of the four major criteria under the old Bailey land use capability system in force until 1982. In other words, the lots were relocated for environmental, not economic, reasons to show Mr. Kelly's sensitively to TRPA's concerns.

* * * * *

MR. ROBERT F. LAHMAN had known Mr. Kelly since 1976, in his engagement as the on-site manager of the subdivision. His tasks were to bring the project to completion, but he constantly encountered obstacles placed in the way of the project by TRPA staffers.

During one conversation with Mr. Barrett in 1980, he alleges that Mr. Barrett said "you will never build the hilltop". Later on, he sent a feeler out to Mr. Owens office, for the purpose of trying to start negotiations which would settle for all time a number of issues, including the relocation of some hilltop lots, the reconfiguration of some of the shoreline lots, or square-shaped building "envelopes", and the elimination of lots and other coverage which he felt would be attractive to the TRPA. The end result, he hoped, would be complete build-out, but these efforts never led to a binding and enforceable agreement.

* * * * *

FROM THE DEPOSITION OF PAUL HOGAN:

Through a deposition transcript former Dan Walsh associated PAUL HOGAN testified, much like Mr. Robert Lahman,

that he was present during a meeting held on June 4, 1982, in the Ferrari law offices in Incline Village. He understood that the parties had reached an accord which would allow the permitting of the hilltop lots to be consented to by the staff of the TRPA, and he thought that recommendations for approval would go before the governing board on a Consent (uncontested) Agenda. The *quid pro quo* to TRPA for the approval of changes benefiting the subdivision was the elimination of lot 38 and the elimination of the funicular, as well as the other environmentally sound management practices. Because of the give and take on both sides, he fully expected that all procedural roadblocks to further development would shortly be removed, but, like Mr. Lahman, he was in error.

* * * * *

WILLIAM CODY KELLY:

William Cody Kelly testified that he was the principal trustee and sole life beneficiary of the Plaintiff Trust which was established in 1962. Mr. Kelly' family members are the remainder beneficiaries of the trust. In 1966, the Trust acquired 44 acres known as the Old Fleischmann estate, part of which was later transferred to Uppaway Development Co. The stock in the development company was then gifted to his children.

The parcel originally included three residences — the Fleischmann main house, the caretaker's house and the guest house. Prior to the purchase of the property, Mr. Kelly was concerned with his ability to recoup a $500,000 cash investment and employed Previews, Inc. as a consultant. That firm determined that a $500,000 to 1 million dollar profit could be reasonably anticipated if the property was further subdivided. Mr. Kelly moved into the main house in 1966 on a four month lease with option to purchase the property and lived in the house with his family until 1984.

In 1972 Kelly commenced to subdivide the lakefront property (phase 1). Raymond Smith was hired as a planning consultant. Exhibit 39 was submitted to TRPA in November of 1974. After several hearings concerning land coverage (excessive by Bailey standards), Mr. Kelly sought and obtained county approval. TRPA then sued Douglas County and the Trust. Judge Thompson granted a motion to dismiss because of some unique "deemed approved" language in the Compact mentioned earlier. TRPA decided not to appeal to the 9th Circuit and Mr. Kelly commenced his subdivision and improvements, hastened by his impression that a proposed ordinance might prohibit lakefront building, The lakefront building "envelopes" were on the market in 1977.

By then, the Uppaway Development Co. was formed and received title of 28 to 39 lots, and the Trust received stock in exchange for the 28 lots. Mr. Kelly retained title to 11 lots.

1977 marked the beginning of the development of Phase 2 — the middle tier or so-called "tennis court" lots.

Also in 1977, Judge McKibben (then sitting in the 9th Judicial District) allowed Douglas County to issue a permit for the repair work on the pier and the construction of a barbecue pit, over vigorous objection from TRPA.

In 1981, Mr. Kelly planned to develop the hilltop lots, the final phase. Mr. Jones updated the 1976 hilltop drawings and added a number of features, including a different sized infiltration trench and drainage system which accommodated flows from the rooftops of proposed residences. Offsite improvements (streets, trenches, etc.) for phase III were not built until 1982. After extensive discussion with TRPA staff, one hilltop lot was eliminated from the subdivision and some of the remaining hilltop lots were relocated to more level ground. Douglas County issued building permits in December of 1982. Kelly felt then (as he feels now) that his subdivision was exempt from emerging regulations.

In July of 1982 Kelly submitted applications for hilltop lots to a case-by-case review. He felt his applications would be expedited and easily placed in line for approval because of the give and take during the settlement discussions mentioned earlier. The TRPA, however, never acted on the applications, and over a year later, the Northern California District Federal Court Order and consequent moratorium went into effect. Mr. Kelly was truly disappointed by what he felt was TRPA's lack of good faith in failing to process his building permit applications.

After the moratorium was lifted, Mr. Kelly received IPES scores in the summer of 1988. He was again greatly exercised when he realized that building still would not be permitted on the hilltop.

Mr. Kelly feels that he has done far more than he was required to do under TRPA rules. He installed an expensive infiltration trench, removed the dead trees and planted 1500 new trees to absorb nutrition in the ground and prevent seepage into Lake Tahoe. During storms he feels that runoff will be captured and silt will cling to the drain rocks in his infiltration trenches. The cinder rocks will be taken out of the trenches every few years and cleaned.

The caretaker's house (lot 7) is owned by the Trust and is not for sale. William Kelly has no opinion as to the reasonable value of the lot. The guest house (lot 17) is on the market for $195,000. The Fleischmann House (lot 19) sold for 1.1 million and lot 22 sold for $522,500. Exhibit 30 shows the expenses he claims to have incurred on the construction of Hilltop - $169,006.22 in offsite expenses, plus approximately $81,000.00 in legal fees. Since all of the remaining lots were owned by the company; since the offsite costs for the remainder of the subdivision significantly exceed the revenues from lot 22; and since the Fleischmann buildings were there in the first place, Mr. Kelly feels that he has actually lost money on the subdivision by reason of TRPA's effort to thwart him.

* * * * *

One of the Plaintiff's two major expert witnesses was called on Thursday morning, February 8th. PROFESSOR CLARE N. MAHANNAH is a hydrologist and civil engineer with both a Bachelor's Degree and a Master's Degree covering subjects including plants and soils as well as water. He is a Professor at the University of Nevada at Reno and has conducted studies in the Tahoe Basin generally, as well as some studies and evaluations which are site specific to Uppaway.

It is Prof. Mahannah's opinion that with the type of "Cagwin" soil which is pervasively present in Uppaway, there is virtually no significant runoff or erosive potential, given normal weather conditions. In fact, it is his opinion that there is no runoff or erosive conditions in Uppaway even during extraordinary weather conditions such as a hundred year or more storm event.

Prof. Mahannah believes that the infiltration system totally diverts water from impervious surfaces in this subdivision. After testing portions of the system itself and having observed it for several years since 1983, Prof. Mahannah believes that no sediment will reach the Lake as a result of building out Uppaway's hilltop lots.

In examining the region he found that the vegetation is nutrient starved and it is his opinion that the vegetation will absorb any nutrient runoff from the upper section of the subdivision, as well as from elsewhere on the property.

His analysis of the non-erosive qualities of the Cagwin soil borrow heavily from field tests done in the nearby Logan Creek Water Shed area, where he and Douglas Guerrant, then a Master's candidate, conducted runoff experiments in the forest and on a dirt roadway.

Prof. Mahannah also attempted to impeach IPES. His primary criticism of IPES was that it fails to properly apply the Universal Soil Loss Equation (USLE) factors which

constitute a universally recognized standard to measure runoff. He stated that the TRPA has ignored two important features of the equation, one being a "C" factor (taking into account "cover" or vegetation) and the other being a "P" factor (taking into account owner management practices such as revegetation).

According to Prof. Mahannah, there is nothing fundamentally wrong with the USLE, with the possible exception that it wasn't really designed for a western United States forest. His major criticism of the way TRPA uses the formula is in its failure to utilize the two factors noted above. The first four factors "K" (soil erodibility), "R" (rainfall and runoff), "L" and "S" (lengths and slope of the ground) are, according to Prof. Mahannah, misleading without a "C" and "P" factor, because they assume a clean, tilled, fallow condition which is nowhere present at Tahoe.

Prof. Mahannah noted that the Agricultural Research Division scientists, who prepared the formula in the first place, have not revised the soil loss equation for natural forests so that instead of generating several pounds of sediment each year, lots such as those in Uppaway might generate an infinitesimally small amount of sediment. Under the revised formula, for example, the actual sediment loss for an individual lot might be only 2.78 times 10 to the minus 11th.

Much of Professor Mahannah's opinion is based upon field work he did along with Mr. Guerrant utilizing several versions of a rain simulator, predominately a device using a rainbird sprinkler, which is called the "M-3". On cross examination Prof. Mahannah admitted that the M-3 has received a great deal of criticism because of the uneven manner in which it disperses water in a given area and because it fails to take into account drop heights and kinetic energy factors which do contribute to runoff problems.

More specific testimony on the "M-3" and other simulators comes during the testimony of Douglas Guerrant, which is next revisited.

In addition to the rainfall simulation tests and the work which Prof. Mahannah did at Uppaway, Prof. Mahannah's private firm, known as WRD, undertook a study of five major water sheds in the Tahoe Basin, measuring these water courses both upstream, above any development, and downstream, below development near or at the Lake's edge. His conclusion, after taking measurements for forms of nitrates and phosphorus, was that the Tahoe Basin has developed a natural system of nitrification and denitrification which has not been interfered with to any great extent by development. His conclusion, which borrows heavily from Plaintiff's major expert, Timothy Durbin, is that most nutrients are deposited as a result of atmospheric conditions instead of as the result of disturbances in the various watersheds.

On cross-examination Professor Mahannah demonstrated some frailty in his understanding of TRPA regulations. For example, he did not know that the hydrologic area which is available for IPES Transfer Rights is larger than a single watershed and in the case of Mr. Kelly's lots, extends from Spooner Summit to Roundhill.

He also didn't know whether or not the Soil Conservation Service is now using the revised soil loss calculation formulas which apply to forest lands. Despite the storage capabilities of the Cagwin soil he has extensively studied, when that same soil becomes compacted, he admits that it is susceptible to a great deal of runoff and in certain instances, may even have a higher erodibility than does "toem" soil.

Further, in his study of five representative watersheds in the Tahoe Basin, his own figures do not conclusively prove the proposition that construction does not contribute to the nitrogen and phosphorus loading because in many of his own

field studies those values a[illegible] significantly increased below development.

* * * * *

The next expert called by Plaintiff was the soils man identified earlier, DOUGLAS G. GUERRANT, a hydrologist with a master's degree from the University of Nevada. It was basically Mr. Guerrant's research using several different rain simulator devices which was cited by Prof. Mahannah for the proposition that Cagwin soils are not very erosive. Each one of the four separate simulators, dubbed M1, M2, M3, and M4, had their own strengths and their own disadvantages form a research standpoint.

His conclusion, after utilizing these devices in Tahoe soil environments, was that Cagwin soils have a high infiltration capacity and a low erodibility factor. TRPA's Bailey system, which he disputes, concludes that the Cagwin soil has a modest erodibility factor on slopes between 0 and 15 degrees and a high erodibility factor on slopes above 15 degrees. Mr. Guerrant feels that the Bailey system has substantially over-estimated the erodibility of soil types in the Tahoe Basin and the influence of the slope on the soil's ability to infiltrate water and sediment, and for this reason, it is scientifically suspect.

On cross-examination, Mr. Guerrant admitted that none of the simulators that he had used have been used extensively before in a forested watershed except for the "M-3". He further admitted with certain qualifications relating to soil type, that it was true that the greater the slope, the greater the likelihood of erosion. The testing methods he employed were not run on any soil type other than those shown in his report, and some of his sediment calculations were made difficult to impossible because sedimentation either blocked or inhibited water running through hoses. Only on the "M-1" simulator was he able to derive data with which he was comfortable for sediment calculations.

He admitted that some of his data points on graphs were predicted according to a mathematical equation instead of representing actual field data. Finally, Mr. Guerrant conceded that there are limitations to the "M-1" testing for erosivity because the machine only produced 30% of the kinetic energy associated with a normal rainfall; that is to say, energy levels in rainfall sometimes play a role which he was unable to calculate.

* * * * *

MR. EDMOND NAPHAN testified on February 13th. He graduated from the University of California in 1941. Following a stint in the service during WWII, Mr. Naphan became the Chief Soil Scientist for the State of Nevada and represented the state in that capacity for some thirty years. His work included developing technical standards for the United States Dept. of Agriculture in quality controls and extensive field investigations. He was very familiar with the USLE equations for soil loss.

Under his direction, auger holes were bored into the soil on several of Uppaway's hilltop lots. The core samples were tagged and bagged and presented to him for evaluation. His analysis agreed in part and disagreed in part with the soils evaluation reached by the IPES team, at least during its first visit to lots 37, 47, 48 and 49.

According to Mr. Naphan, the procedure utilized by the TRPA in determining the "K" value for soils involves the auguring of only one hole, which he considers to be grossly deficient because of the variability of the soils groupings at a single hilltop location. In point of fact, he believes that a detailed analysis of the soils allows an expert to conclude not only that is it a mis-statement to characterize the soil groups as just "Cagwin" or "Toem", but also that new "K" values should be assigned to this particular type of soil. In the case of Cagwin-related soils, he feels that a .05 value should be utilized instead of a .2 value, and in the case of the Toem-related soils, a .02 value should be utilized instead of the .17

value used by the TRPA. He also feels that the TRPA failed to take into account the amount of organic material present in the soil.

In summary, he feels that there is very little runoff potential for the Plaintiff's lots. In fact, what little runoff might be occasioned by an extraordinary storm event would be easily handled by Mr. kelly's infiltration system. In other words, Mr. Kelly should not be denied a building permit for any reason relating to the erodibility of the soil of his hilltop lots because that soil is not very erosive.

Mr. Naphan's testimony was the final piece in the Plaintiff's backdrop. The stage was now set for the expert whose testimony was the most coalescing and certainly the most wide-ranging of any at trial, Timothy Durbin.

* * * * *

THE DIRECT TESTIMONY OF TIMOTHY DURBIN:

Mr. Timothy Durbin is the former director of the U.S. Geological Survey in Nevada and California. His work for USGS at Lake Tahoe included nutrient and soil transport, steam flow erosion control, sediment sources, land studies and related disciplines. The Court declared Mr. Durbin an expert in Hydrology (being for these purposes the study of water and how it occurs and moves through the environment).

According to Mr. Durbin, there are about 100 tributary watersheds of various sizes discharging into Lake Tahoe. The yields of sediment, that is, the amount of sediment that is derived from the watersheds and into the lake, is expressed by weight: "tons per year." Similarly, nutrient yield from the watersheds into the Lake is also expressed by weight: "tons per year" or "kilograms per year." Hill slope erosion and stream channel erosion constitute two of the primary ways for sediments and nutrients to be discharged into the Lake.

Mr. Durbin relied in part on the "Nolan Sediment Sources Study", involving four watersheds [Blackwood Creek, General Creek, Edgewood Creek and Logan House Creek], for the proposition that channel erosion may account for somewhere between 65% and 90% of sediments reaching the Lake. Mr. Durbin also testified that there was no showing in the study that development had any measurable affect on channel erosion. He concluded that sediment yields from channel erosion is due primarily to natural causes. Mr. Durbin testified that road cuts in some locations do contribute to sediment into the lake, but he feels that they are not a primary source.

As for nutrients, (mostly nitrogen [N] and phosphorus [P], Mr. Durbin testified that basic in-put of N and P to watersheds comes from rain and snow fall (in other words, from the atmosphere). The two pathways are: (1) run-off into the streams; and (2) infiltration (ground water pathways). Also, nutrients fall directly on the Lake. In addition to these "wet falls" are "dry deposits" or dust and other dry particles that fall upon the watershed.

The four possible "fates" of nutrients once they reach the Lake Basin are as follows: (1) nutrients can be stored in the water; (2) nutrients can be stored within the algae; (3) nutrients can be deposited to the bottom of the Lake where they settle; and (4) nutrients can be discharged into stream flows [i.e., the Truckee River] out of the Lake.

What happens when nutrient flow is increased? Mr. Durbin hypothesizes a "steady state" condition, where the inflow of nutrients into the Lake is balanced by the outflow, i.e., there is an equilibrium achieved with the same mass of N and P coming in as is going out. Of course, there will always be seasonal variations and yearly variations, but if the trend is constant, science can say that there have been no "storage changes." *See Exhibit* 5-14, which shows increasing inflow of N and Mr. Durbin's notion of equilibrium. Storage of N would increase over time with,

perhaps, a new steady state to be achieved some time in the distant future.

Mr. Durbin testified that the present state of the Lake is one of "transition". It has departed from a steady state and is moving toward a new steady state — one that will have a greater N weight. According to *Exhibit* 5-13, it is unclear what is happening to the Lake regarding P; in other words, Mr. Durbin can't predict a distinct trend.

Increase of nutrients means that as mass increases, concentrations will increase; algae is increasing in response and water clarity is going down. By way of contrast, Durbin feels that sediments have no long term affect on water clarity as sediments ultimately settle to the bottom of the Lake. Moreover, he opines that sediments tend to accumulate at the mouth of the stream, and in sharp contrast to TRPA/ California experts, he feels that sediments do not bring N into the Lake. Mr. Durbin's entire thesis, which is examined more fully in the First Discussion Section is based on "Budgets". A "Budget" is a listing or accounting of the source of inflows, outflows and a statement about the fluctuating rate. Budgets tell us the magnitude of the process and what is important about the behavior of the system.

According to Mr. Durbin, his budgets disprove the efficiency of "IPES", *see Exhibit* 5-28, the purpose of which is to protect and/or enhance water quality of the Lake by a system of land development regulations involving a scoring system. In Mr. Durbin's opinion, the IPES score is not related (or cannot be related) to erosion, nor can the score be related to sediment yield. Moreover, cultural influences on sediment yield are small as he feels that development generates very little sediment. According to the monitoring program at Incline Village done in the 1970's and then in early 1980, sediment yield was high shortly after development took place but was low ten years later. According to Mr. Durbin, even though there was an increase in sediment caused by development, there was a "healing process" that

subsequently brought sediment yields back to what they were prior to development.

Only seven watersheds constitute the basis of the USGS watershed studies at Lake Tahoe, (*see Exhibit* 5-4) but they represent 50% of the water going into the Lake. From studies on and monitoring of these watersheds, Mr. Durbin feels that he can demonstrate mathematically that development contributes a small portion to the 24,000 tons of sediment that reaches the Lake per year while the rest is associated with other processes occurring in the watersheds. Mr. Durbin makes assumptions from Vail maps and street maps that depict road ways and then he correlates these "improved" areas to areas of cultural sediment yield: total area = 38 sq. miles of development; total sediment yield = 24,000 tons per year; the conclusion being that only 13% of sediment yield can be associated with development (3,000 tons per year) while the rest (21,000 tons per year) is caused naturally in the watershed, deposited from watersheds having little if any development.

Having thus handled sediments, Mr. Durbin turned his attention to nutrients. Are nutrients associated with erosion? Mr. Durbin feels that they are not, because N is not in his opinion related to sediment yield.

His conclusion, which he restates many times in many ways through his various budgets, is that development watersheds have little impact on reducing the overall quality of the Lake.

He concedes that nitrogen is increasing dramatically in the Lake. One of his predictions is set out in *Exhibit* 5-17. He sees the Lake in balance in the late 1950's and early 1960's. Due to increasing atmospheric deposits on the Lake surface (wet and dry fall) Nitrogen is increasing and will work to a new "steady state" — nitrogen up by four times. Nitrogen levels are now about 15 parts per billion and by the year 2300 will be 42 parts per billion if development continues versus 40 parts per billion if development were to stop,

according to Mr. Durbin. In other words, development generally, and residential development in particular, simply cannot be viewed as a major culprit associated with nitrogen-loading because it plays such a fractionally small role.

Mr. Durbin used *Exhibits* 5-30 and 5-31 to illustrate his opinion as to the source of increased nitrogen which he blames for the greatest part on *atmospheric transportation from the urbanized coast* of the Northwest.

Finally, Mr. Durbin gave the Court a synopsis of his research of the logging history of the Tahoe basin to illustrate his contention that further development will have little impact on the Lake's quality. Mr. Durbin feels that the case studies of Dr. Goldman, Dr. Byron and others have helped to prove that all the land disturbance caused by late 19th Century logging had no effect on the Lake. Again, if ground disturbance is not the cause of increased nutrients into the water, the *atmosphere* must be the source.

The stage was then set for the mathematical models which Mr Durbin used to establish his nitrogen and phosphorus "Budgets". These budgets are reviewed in some detail in the First Discussion Section, but for now, his preliminary conclusions are worthy of note.

As for nitrogen into the Lake, Mr. Durbin concluded that 9% comes in via streams, 6% from "cultural activities"; and 85% from the atmosphere. Regarding phosphorus, Mr. Durbin concludes that 55% comes from streams, only 6% from "cultural activities", and 39% from the atmosphere.

In short, according to Mr. Durbin: (1) development produces very little sediment; (2) sediment contains very little nitrogen; (3) the majority of the Lake's nitrogen arrives via rain, snow and dry-fall landing on the Lake; (4) development at the lake is not the cause of water clarity problems; (5) IPES is faulty because it can not be justifiably related to its purpose.

Because Mr. Durbin's testimony is such a key to Plaintiff's case, a separate section is devoted to his Cross-Examination.

* * * * *

CROSS-EXAMINATION OF MR. DURBIN

On Cross Examination, Mr. Durbin admitted that a number of his conclusions were confirmed by him after his November deposition was taken. He also admitted that the numbers which he allocates to such important factors as nitrogen loading, have changed since the time he appeared before a legislative oversight committee. At the time he testified before the sub-committee, he offered the opinion that the total load of nitrogen was some 135 tons, whereas the figures he now uses are 56.1 tons for atmospheric loading and 9.8 tons of streamloading. He admitted also that initially he did no calculations for ground water loading of nitrogen and primarily discounts its effect. Moreover, his studies concentrated on dissolved inorganic nitrogen and soluble reactive phosphorus, and he did not take into primary account any accretions in the amount of nitrogen or phosphorus caused by organic materials.

His study did not take particular account of the fact that the rainfall levels vary in different "contours" of the Basin, although he feels that doesn't make much of a difference to his overall calculations.

He feels that core samples which arguably lead to the conclusion of increased sediment occurring after 1960 should be re-examined for the plausible hypothesis that a great deal of mixing among the sediments has occurred on the top layers of the core samples, thus invalidating the conclusion reached by others that sediment loading has been increased by recent development.

He admits to not subjecting his nitrogen and phosphorus loading analysis to the rigors of standard error studies nor to individual regression co-efficients, but (after reflecting on the matter overnight) he was able to subject his figures to what he called a "sensitivity" study. This study showed variances of his nitrogen estimates which could lead to plausible error of plus or minus 1.9 tons per year and as to phosphorus, plus or minus .3 tons per year. This changes nitrogen and phosphorus contributions by several percentage points.

For example, under his Exhibit 59, if the atmospheric contribution to nitrogen loading is 42.8 tons rather then 56.1 tons, then the effect of development equal 9% and not 6%. Under Exhibit 64, if the atmospheric loading of nitrogen is added to a figure for ground water loading of nitrogen and the out-flow at the Truckee River is changed to 3.8 tons, then the effect of development is as much as 16%, according to these revised calculations.

The area where Mr. Durbin showed perhaps the least amount of knowledge and training had to do with the details of atmospheric migration and deposition. He admits that he did not plot any wind trajectories coming from California, nor had he subjected them to any kind of a systematic study over time, even though he claims that the single most important contribution of nitrates comes from the Sacramento and San Francisco area to the west of Lake Tahoe. His overall opinion, however, does not change. According to Mr. Durbin, atmospheric contributions of nitrogen and phosphorus are far more important than all other sources of algae-forming nutrients. Particularly insignificant is the contribution of residential development. Most infinitesimal of all are the contributions from Mr. Kelly's engineered subdivision.

* * * * *

Two witnesses testified on the afternoon of February 21st. The first was RAYMOND M. SMITH, a professional

planning consultant who undertook his undergraduate work at Stanford and received a Master's degree from Harvard University. With extensive service in Northern Nevada, Raymond M. Smith was the first planner for the State of Nevada, and he is the author of Exhibit 39, which is the report that details Mr. Kelly's planned unit subdivision in Uppaway. It was prepared in 1974 and submitted to the Federal District Court for the District of Nevada prior to that Court's order in October of 1975.

Mr. Smith does not fully understand the new IPES regulations despite his extensive credentials and feels that the TRPA should operate for the benefit of the public by opting for mitigation measures which would allow further building. In fact he feels that Article II(D) of the Compact requires such mitigation measures.

On cross-examination he admitted that the IPES system is more site specific than the Bailey system that preceded it.

* * * * *

The second witness was MR. FRED DANIELS, JR. Mr. Daniels is a consulting mechanical engineer with degrees from UNR-Reno, and he served for several years as the Chairman of the State Board of Professional Engineers.

After examining the credentials of some of the IPES team members, Mr. Daniels feels that they are distinctly underqualified to do the work they are called upon to do by the TRPA. Worse yet, he feels that the performance of the work by those unqualified persons represents an illegal act under Chapter 625 of Nevada Revised Statutes. The Court, however, held that the Federal law pre-empted the issue and that the Compact permitted the TRPA staff to conduct work pursuant to the Compact without complying with the registration provisions of Chapter 625.

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On the morning of February 22, 1990, STEVEN R. JOHNSON, an MAI and SREA qualified real estate

appraiser, was allowed to offer limited opinion testimony regarding the value of Plaintiff's hilltop lots.

He formulated an opinion as to values in 1982, prior to the enactment of the revised plan and after the development of the revised plan. He also had opinions as to value in 1989, including a value of the lots following the amended IPES scores.

Those valuations are as follows:

1982 Prior to the Plan:
$566.250.00

1982 After the Kelly Plan:
$815,000.00

Before the IPES appeal in 1989:
$555,000.00

In 1989 after the IPES appeal:
$622.020.00

Mr. Johnson also testified that the total retail sales of lots within the Uppaway subdivision to date has produced gross sales in the amount of $5,236,000.00. There is an additional preliminary unsold mid-level inventory of lots on Kelly Circle having a value, he feels, of $710,000.00.

And that, with some reservations, summarizes the Plaintiff's case.

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DEFENDANT'S CASE

On the afternoon of February 22, the TRPA chose to call DR. CHARLES GOLDMAN, perhaps the world's leading expert on Lake Tahoe, as its first witness. As a "limnologist" or an inland lake ecologist, Dr. Goldman has studied the Lake and its environs since 1959. He helped

formulate the Tahoe Research Group which has a series of on-going studies at the Lake. His division of environmental studies at the University of California-Davis is one of the participating agencies in the Tahoe Research Group and the interdisciplinary assessment team.

According to Dr. Goldman, Lake Tahoe is in many ways unique among the large lakes of the world. It has a relatively small watershed when considering its surface area and volume, so much so, in fact that it would take 700 years to replace the water if Tahoe were drained. Because of this feature and because of its relative infertility, sediments and other materials finding their way into Lake Tahoe stay there for a very, very long time.

Dr. Goldman's studies indicate that there has for several years now been a 5 1/2% increase per year in algal growth at Lake Tahoe. He feels that measurements and studies which have a duration shorter than five years are inconclusive and misleading because of tremendous inter-annual variations caused by differing volumes of rainfall and other climatological variations. Using a recognized procedure to measure the transparency of Lake Tahoe, he concludes that currently, Lake Tahoe is losing about 1/2 a meter a year of its transparency primarily due to algal growth, with over 100 algae species appearing in the Lake, sometimes at different times. As with Timothy Durbin, many of Dr. Goldman's opinions are digested later in the First Discussion Section.

For now, in the briefest summary, Dr. Goldman feels that without base wide controls for erosion, and indeed, without controlling development itself, many of the unique qualities of Lake Tahoe will be lost forever.

On Cross-Examination, Dr. Goldman conceded that airborne deposition of nutrients may exceed the nutrient discharge from the combined effects of streams and ground water, at least during certain years. Only recently have scientists realized the role which is being played by organic components of nitrogen and phosphorus.

He admitted that the studies which have been performed at Lake Tahoe have not concentrated upon the role played by the development of single family residences. Moreover, Dr. Goldman and his colleagues were surprised when their core studies of sediment from the bottom of the Lake did not disclose a spike in the amount of diatoms showing increased algal production at the time the basin was disturbed by logging activities in the late Nineteenth Century.

Dr. Goldman also admitted that scientists as yet don't know the full extent of natural versus cultural loading of nutrients into the Lake, but he emphasizes that very small amounts can play a disproportionate role because they interfere with the Lake's historical equilibrium. Because of this feature, he feels it is misleading to simply assign straight percentages for the contribution of man-made disturbances which in small increments may play a critical role in the overloading of the ecosystem. More on this later.

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The former United States Forest Service supervisor, MR. WILLIAM A. MORGAN, became the executive director of the Tahoe Regional Planning Agency in the Spring of 1985. Because of the pending litigation in the Federal District Court in Sacramento, this was, he felt, one of the most troubled periods during the history of the TRPA.

Mr. Morgan traced his understanding of the history of the TRPA, starting with the so-called "1980 Plan" which was prepared in 1964 and given the later dated in its title because the authors had certain ideas about how they wished the Lake to appear by the year 1980, as mentioned earlier in the history section.

Mr. Morgan was, perhaps, the driving force in the consensus building workshops which led to the agreement and the stipulated settlement of the Federal Court litigation. He felt that the new goals and directions of the TRPA, including what he called "the curing capacities" of the Lake Basin,

have been incorporated into the 1987 ordinances and the 208 Water Quality Plan.

Mr. Morgan feels that the IPES rating system, which to a great degree also bears his personal stamp, not just directly limits growth of residential development through planning, but also indirectly manages other environmental thresholds, which he feels to be a proper by-product of IPES.

He feels that the IPES system is superior to the Bailey system because it recognizes the importance of field investigations to determine true land capabilities, and because it far more specifically evaluates individual parcels than does the old Bailey system.

He sees the so-called IPES "line" of demarcation, which is the threshold score permitting or precluding construction, moving down as the inventory of sensitive lands in the Basis begins to shrink. He also feels it is appropriate that the most suitable lots for building are those which are first allowed building permits; in other words, they are the less-sensitive parcels.

In Mr. Morgan's opinion, it is not necessary to have licensed engineers and surveyor as members of the IPES team as properly trained technicians, including a soil scientist, a hydrologist, and a planner, are more than sufficient to serve the TRPA and the public in implementing the IPES rating system.

During cross-examination Mr. Morgan stated that there is no credit given for offsite mitigation prior to an IPES evaluation. Nor is there any provision he knows of for raising IPES scores by onsite mitigation measures employed by the landowner.

He further admitted that there is a possibility that the IPES line may never move downward so as to free low scoring lots for development. Finally, he conceded that IPES doesn't seek to measure post-construction impact.

Concerning the universal soil loss equation, Mr. Morgan acknowledged that the TRPA version of the formula does not utilize either the "C", "cropping" or "coverage", factor or the so-called "P" factor which has to do with onsite mitigation measures and practices.

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The defense then called another limnologist and noted Lake Tahoe Research Consultant, DR. EARL R. BYRON, who was awarded his doctorate at the University of Colorado at Boulder. Dr. Byron has been doing a great deal of post-graduate research work with Dr. Goldman, particularly with respect to what he calls "the food web" at Lake Tahoe. Since 1983 he has been in charge of the interagency monitoring program (LTIMP) at Lake Tahoe.

Dr. Byron feels that it is highly inappropriate in a complex ecological system to use simple mass balance analyses such as those employed by Mr. Durbin. He feels that the whole system of transformation of nutrients involves the take up, the decay, the sedimentation and the release of nitrogen, in ways that do not lend themselves to a mass balance understanding. Phosphorous, too, undergoes transformations, and though it is in shorter supply than nitrogen, it can be even more devastating to the Lake because it can be stored and is strongly associated with particles and with sedimentation. And because it often appears in a particulate form, he feels that Mr. Durbin's utilization of soluble reactive phosphorous as a measuring device, is again inappropriate.

Dr. Byron stands by the scientific validity of his sediment core studies which are mentioned, among other places, at *Exhibits SSSS-8 and -11*, and he feels that the core studies tend to show that development does play a significant role in the eutrophication of the Lake. He feels, with the care that was taken in capturing and analyzing the core samples, that there is very little possibility of results being confused by reason of near-surface "mixing" of the sediment materials.

He also feels it was inappropriate for Mr. Durbin to employ a simple regression technique using the sediment core data because, by projecting outside the date base, he failed to demonstrate the wide statistical variance having extremely disparate upper and lower confidence levels. Dr. Byron feels that IPES is rationally related to its purpose of controlling water clarity.

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MR. FRANK W. DAYKIN, for many years the legislative counsel for the State of Nevada, was called out of order by the Plaintiff for the purpose of highlighting certain aspects of the Compact itself, as well as its legislative history, cf. NRS 277.200. Mr. Daykin feels that in the early 1980's, the TRPA acted against the will of the Nevada State Legislature in limiting the number of building permits that should have been issued to Douglas County. He also feels that the TRPA contravened Nevada law by interpreting the Compact so as to interfere with the rights of certain land owners to proceed to construction of single family residences while the final Tahoe Plan was being hammered out.

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DR. THOMAS A. CAHILL was called by the State of California and the TRPA as an expert on atmospheric effects at Lake Tahoe. Dr. Cahill comes from the Dept. of Physics at the University of California at Davis and since 1970 has done extensive work in using nuclear physics and in using cyclotrons to analyze air pollution. He has authored some 140 articles on related subjects.

He, too, agrees that Mr. Durbin's mass balance approach is inappropriate because he feels that Mr. Durbin was unable to measure some of the components which go to make up the mass balance formula. That is to say, an approach which relies on statistical interferences rather than data may be misleading and scientifically invalid.

Even for those parameters where data was available, he feels that Mr. Durbin utilized misleading data. For example, the atmospheric deposition measurements for the Ward Creek watershed are misleading because Ward Bench has one of the highest rainfalls at Lake Tahoe. Had Mr. Durbin been sensitive to the contour studies of rainfall at the Lake, he might have come up with some 36 tons of nitrogen loading as opposed to some 56 tons.

Dr. Cahill launched into an extensive explanation of the complex features of atmospheric deposition of nitrogen and phosphorous at the Basin. Dozens of combinations exist, because these nutrients can be deposited through a dominant wet deposition process such as snow, rain and cloud water or fog, or, in dry deposition through gases, fine particles and course particles. Not only in the form of nutrient deposits widely varying, but so too, are seasonal variations from the summer to the winter months as well as the amount of relative precipitation.

Dr. Cahill feels that Mr. Durbin has little scientific support for the hypothesis that the problems at Tahoe are strongly associated with urban development in the Sacramento had Bay areas. Dr. Cahill's studies show that most of the storms that arrive at Tahoe come from the Northwest to the Southwest over water and air sheds in the North Pacific region which contain some of the cleanest air in the world. In fact, he feels that it can be demonstrated that there has actually been a decrease in NO2 concentrates in the Sacramento and Bay areas between 1959 and 1989, although these gains may be offset by the increased amount of traffic in the Tahoe Basin during that same period and, especially in the winter months, by ground up resuspended dirt on roadways.

After a complex evaluation of the transformation of nitrogen, the reactive nature of nitrates and the deposition of ammonium nitrate, together with the seasonal variations mentioned earlier, and atmospheric inversions and

windflows, Dr. Cahill discounts the role of out-of-basin sources for the airborne deposition of nitrogen. He feels that course particle nitrogen from a massive biological sources, play a much more significant role. He acknowledges that no systematic studies have yet been done which show the comparative contribution of organic course particle nitrogen with other forms.

Dr. Cahill feels that scientists are getting much closer to understanding the immensely complex process of nitrogen and phosphorous deposition, transformation and recycling at the Lake, but he feels that the TRPA is, nonetheless, on the right track by controlling growth and development on high hazard parcels of real property.

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On February 27th the current Executive Director of the Tahoe Regional Planning Agency, DAVID ZEIGLER, was called by the TRPA for the purpose of describing monitoring programs in the Basin, cause and effect relationships, controls standards, programs and measures. During his tenure, he has made sure that the TRPA is an active member of the Lake Tahoe Interagency Monitoring Plan (LTIMP), and corroborating the statements of Drs. Goldman, Byron and Cahill, Mr. Zeigler pointed to the dramatic increase in algal growth in the Lake and in its tributary streams. In fact the streams themselves, as well as the Lake, have been in frequent violation of water quality standards and guidelines published by the Federal Government, and by California and Nevada.

As did Dr. Cahill before him, Mr. Zeigler talked about the Tahoe watersheds in their natural state as producing an efficient system for stripping nutrients and holding them. He also described the complex nitrogen cycle that takes nitrogen gas from the atmosphere, converts it to nitrates which then precipitate and are absorbed by both plants and animals, eventually finding their way into debris. Exposure to bacteria converts the nitrates to ammonium nitrate, organic

compounds and ammonia. Finally, they are converted back into nitrate, with dangerous runoff potential occurring at the front, middle and back ends of the system.

In Mr. Zeigler's opinion a properly designed infiltration system, such as the one located at Uppaway, can minimize, but will not eliminate, the impact of nutrient-loading.

Mr. Zeigler described the evolution of the 1974 Bailey Lane Classification Guide for Planning, its former coefficients and its lingering vitality in the IPES program. He points out how the relative erosion hazard and runoff potential categories for IPES, in effect, both compliment and, in a way, supplant, the Bailey system as it relates to the calculation for allowable land coverage. Whereas the Bailey system drew lines with a broad brush, so to speak, and allowed land coverage in categories 1 through 3 of between 1 and 5% only, the IPES program allows for a "curve" instead of a "stairstep" approach. Therefore, even those persons whose land falls in a category 3 Bailey Land use allowable coverage category may, depending upon their erosion hazard and runoff potential score, cover their land with impervious surfaces to a degree somewhere between 5 and almost 20%, unless, of course, the lot itself was inside a planned unit subdivision, like Uppaway.

In the case of planned unit parcels, the calculation takes into account factors for gross acreage. In Mr. Kelly's case, even if his IPES score was theoretically high enough, he would still be limited to the 2500 square feet depicted on the subdivision map.

In addition to his description of IPES procedures, Mr. Zeigler talked about soil conservation and anti-degradation policies which are consistent with the published environmental thresholds of the TRPA and with the Federal Water Quality "208" Plan. In fact, he feels that the environmental threshold (and in another sense IPES itself) are ways which allow numerical parameters to be assigned to what would otherwise be difficult to enforce.

Mr. Zeigler also explained his understanding of Best Management Practices such as drainage control and revegetation. As desirable as Best Management Practices are, he feels they are only as good as the care and maintenance which are given to them following their installation. He retains a long range concern for all such amenities, including and especially those installed by Mr. Kelly in the Uppaway subdivision. Management practices basin-wide, he states, are nowhere near as effective to maintaining Tahoe's balance-state as are natural conditions.

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Another Consulting Hydrologist whose background and training are heavily weighted in favor of statistical measurements, is MR. DAVID DAWDY. Mr. Dawdy's testimony has a tendency to rebut the Guerrent thesis, in the following particulars.

Mr. Dawdy feels that slope is a much more important variable than does Mr. Guerrent. He thinks that Mr. Guerrent's report of sediment yields as high as 1 to 28 (expressed in parts per thousand), or 1,000 to 28,000 (expressed in partes per million), actually proves a very high, not a low, sediment rating. Mr. Dawdy was also asked to critique the Hill and Nolan report (Exhibit SSSS-5), which was relied upon in part by Mr. Durbin. Mr. Dawdy feels that the Hill and Nolan report impeaches itself because the authors failed to take into account their own data from two other streams on the east shore of the Lake. Had they done so, Dawdy thinks they would have realized that some of their morphological conclusions were faulty.

Finally, Mr. Dawdy joined the other defense experts who criticized Mr. Durbin's use of regression equations to make predictions, without implementing rigorous confidence-level standards at the same time.

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FLORENCE LIVINGSTON'S curricula vitae shows him to be a pre-eminent city planner. With degrees from Stanford, Yale Law School and MIT, Mr. Livingston has been involved in major plans all over the country. Having carefully examined the 1987 Tahoe Regional Plan, it is Mr. Livingston's opinion that the techniques which are incorporated into the Plan are not only proper techniques for environmental threshold carrying capacities, but they represent systematic, logical, unbiased and scientifically based standards. Mr. Livingston has participated in the development of plans in Menlo Park, Los Angeles, San Francisco and Florida, where the conceptual framework is not at all dissimilar to the format of the 1987 Tahoe Plan. Greater treatment might properly be given to his opinions here, but Mr. Livingston basically invade's the province of the Court in reaching his conclusions about the sturdiness of the legal cornerposts for IPES.

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MILT SHARP, Civil Engineer, was called by the defense and taken out of order (once again for scheduling reasons) to traverse Mr. Kelly's claims about the size of the direct expenses he sustained in developing Uppaway. According to Mr. Sharp's analysis, (*see* Exhibit J) Uppaway improvements, including such matters as surveying, bond premiums and the like, produce a total cost for phases I and II (the Lakfront and Tennis Court lots) of $25,193.00. For Phase III (the Hilltop) the figure is $24,888.00.

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DR. ROBERT COATS, a Consulting Hydrologist with expertise in the nutrient transports in alpine watersheds, testified that Mr. Kelly cannot "improve on nature" with his infiltration system and mitigation measures. He feels that such a system does not cleanse certain forms of nitrogen that may migrate through the subsurface in solution with ground water. Further, the disturbance from construction inhibits the "duff" zone on the floor of the forest. This organic layer,

which is a few inches thick at the soil surface, is perhaps the most efficient zone for nitrogen uptake and certainly more important than the uptake at the depth where the infiltration system may deposit nutrients. Like Dr. Goldman, Dr. Coats feels that Mr. Durbin errs in considering just the soluble reactive fraction of total phosphorous loading (*see* Exhibit Z-50). Like Dr. Byron, he feels that Mr. Durbin ignores transformation processes of both nitrogen and phosphorous. Like both of them, he knows that the dominant form of nitrogen is organic nitrogen. And, like all the defense experts, Dr. Coats feels that Mr. Durbin seriously underestimates the impact of land development and disturbance on deposition of total phosphorous and organic nitrogen.

In Dr. Coats' opinion, Mr. Durbin's statistical regression analysis is so seriously flawed that one should not give much faith to the conclusions drawn. Stanford Standard Competence and Significance testing shows that there is a 50% probability that Mr. Durbin's regression analysis means nothing at all. Obviously, the 95% confidence rating, which scientists are used to, is not present in Mr. Durbin's analysis or in his nutrient budget; therefore, he feels, decisions cannot be based on such inexactitude.

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Wednesday, February 28th, saw the testimony of KENNETH FOSTER, a consulting civil engineer licensed in both Nevada and California. He was a member of the Board of Directors of the Sierra Preservation Council, and he was a key member of the technical advisory committee for the Consensus Building Workshop.

He described the complex and tedious process of developing the technical base for the IPES procedure over a period of more than two years. He described in detail each of the 9 IPES elements and the rationale behind the scoring procedure, particularly the conversion and use of the universal soil loss equation and the runoff potential which together account for 650 of the 1150 available points.

For "conservative" reasons the Technical Advisory Committee decided not to use the most recent soil service category for the Cagwin soils that predominate in the Tahoe Basin. They elected instead to use the older Rogers' report, which assigns a lower runoff potential category and a commensurately lower IPES score to this component of the evaluation. He acknowledged on cross-examination that this scoring decision was made for policy as much as scientific reasons.

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Also testifying on the 28th was attorney KENNETH ROLLSTON, who, along with Mr. Owens, was the attorney for the TRPA during the time when amended plat maps for Mr. Kelly's subdivision were prepared. Following the Federal Court approval of the subdivision, Mr. Rollston discussed the import of certain correspondence he had sent or received, particularly Exhibits A-4, I-5 and I-13. The latter two documents contain acknowledgements on behalf of the TRPA that ordinances that might otherwise prohibit building at Uppaway have had no application to the "deemed approved" status of the Uppaway subdivision by virtue of Judge Thompson's Federal Court Order. These exhibits and their legal import are more carefully reviewed in the Third Discussion section.

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DR. ROBERT TWISS is a noted landscape architect and an environmental planner. He is former Chief of the California-TRPA and was a member of the Technical Advisory Committee during the creation of IPES.

From his direct involvement and from the research he has done, Dr. Twiss feels that he is in a unique position to trace the history and the environmental planning at Lake Tahoe commencing with the grant from the Fleischmann Foundation in 1957. These efforts eventually resulted in the final advisory plan, dubbed the "1980 Plan", which was published

in 1964 but was rejected by Washoe County and so ended the period of what Dr. Twiss calls the "pre-planning" efforts.

The next "era" for the Tahoe Regional Planning Agency started in 1967 and ran through 1972. During this period of time, development was controlled by counties because a region-wide plan was not in force. Recognizing the imminence of restrictions on the growth of subdivisions by the implementation of a regional plan, developers took advantage of this hiatus in regional planning and during 1970 created 4,134 lots. In 1972, 4223 more lots came into existence. In total, during the time when the Tahoe Regional Plan was in the process of preparation, 14,684 lots came into being in the Tahoe Basin. Many of these lots represent the 12,000 vacant lots which are still in existence and affected by "IPES".

Dr. Twiss thinks that some of these subdivisions are "antiquated" because they were approved prior to the adoption of protective measures and because, he feels, they do not adequately address environmental concerns.

In his role as a member of the Technical Advisory Committee, Dr. Twiss was one of the architects of IPES, so he naturally approves the specificity with which IPES measures individual building sites. He does not feel that IPES is a growth control measure, but on cross-examination, he admitted that if the line does not move downward in the near future, then IPES will have the same effect as would a growth control measure.

Dr. Twiss wishes to place the Uppaway subdivision in the context of the enormity of the problems facing regional planners at the Lake when it comes to understanding how long it has taken to address the problems of the Uppaway subdivision, being just one subdivision among many. The planning agency had to cope with thousand of lots over the same period.

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The final two defense witnesses were Gordon Barrett, who testified earlier, and Dr. Thomas Dunne.

GORDON BARRETT was briefly recalled to refute the statement attributed to him by Mr. Lahman. Mr. Barrett states that he never told anyone that Mr. Kelly would "never build the Hilltop". Mr. Barrett also reviewed Mr. Durbin's study of developed areas in the basin and offered the view that because Mr. Durbin used some old maps, there are significant developed areas both on the North Shore of Lake Tahoe and on the South shore, particularly at the downtown casino core and up along Kingsbury Grade, which Mr. Durbin had simply failed to account for in his calculations. Therefore, Mr. Barrett feels that Mr. Durbin's conclusions were placed in further disrepute.

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DR. THOMAS DUNNE from the University of Washington, Dept. of Geological Sciences, was called by the defense as an expert on pathways of rain and snowmelt runoff from steep soil in forested areas which was the subject of his doctoral thesis at John's Hopkins Univ. in 1969.

Dr. Dunne describes four paths which runoff takes in places such as Uppaway:

1. Overload flow, or so-called "Horton" flow, which occurs when rainfall intensity exceeds the infiltration rate;

2. Water which percolates through grus into bedrock and slowly migrates downhill (relatively deep ground water runoff);

3. Shallow subsurface flow as ground water; and

4. Saturation exfiltration overland flow, where the near surface water has become so saturated that it percolates back to the surface for overload transport.

Like many defense experts before him, Dr. Dunne talked about the fact that surface water can carry organic particles as well as dissolved forms of nutrients. He offers the view

that any ground disturbances taking place near the protective or "armored" layer near the surface replenish the supply of erosive materials.

From several perspectives he questions the validity of Mr. Guerrant's study and opinion. First, the M-3 and M-4 simulators, he feels, simply don't simulate rainfall very well. While the M-1 and M-2 are acceptable simulators, he feels that the infiltration data which Mr. Guerrant developed doesn't prove Mr. Guerrant's conclusions. He feels further that Mr. Guerrant raked the upper two inches of the soil to attempt to represent disturbed conditions, but this kind of disturbance actually increases the infiltration capacity of the soil. More typical construction efforts, such as soil compaction, actually inhibit infiltration characteristics of Cagwin type soils. He concludes that Cagwin soil is a soil of high erodibility and thinks that Mr. Guerrant's thesis wholly fails to disprove this conclusion. He further feels that had the Guerrant thesis been based upon a sufficient number of replications, the conclusions might well have been very different. In effect, he asks the Court to discount altogether the soil studies done by Mr. Guerrant and his adviser, Clare Mahannah.

Dr. Dunne also critically reviewed Mr. Durbin's claim that the bed and the banks of streams bring (or transport) the great majority of sedimentation to the Lake (as opposed to hill slope erosion of sediments). Because of what Dunne calls a major computer error, Mr. Durbin processed much of the LTIMP information using the wrong "triplets" (he averaged the wrong numbers together). Had Mr. Durbin instructed the computer correctly, he would have realized that in some cases his own information disproves the hypothesis. On other occasions, the computer program is too highly variable to allow for Mr. Durbin's kind of budget analysis. Like Drs. Goldman and Byron, he feels that the Durbin nutrient budget analysis ignores the contribution of organic nutrients and mineral particles which are coated with

fine layers of nutrients. He offers the opinion that even subsoil particles have attached phosphorous and iron which can enter a stream through seepage.

Overall, he feels that the IPES system is a legitimate way to examine the landscape and to anticipate the effect development may have on sediment and nutrient transport, and overall he feels that Mr. Durbin's analysis is unscientific.

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PLAINTIFF'S REBUTTAL CASE:

The first witness on rebuttal was MR. DAVID STRONGIN, who has lived in Incline Village since 1969 and was a vocal critic of certain aspects of the TRPA regulations.

Approximately four years ago he talked to Dr. Goldman, who indicated to him at the time that his studies were beginning to show that runoff from single family residences was not all that important to deteriorating water quality in Lake Tahoe. The Court considers this impeachment, not substantive, evidence.

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NOBLE MURRAY was called to rebut the valuation approaches used by defense appraiser Steven Johnson. Though not an MAI appraiser, Mr. Murray feels that Mr. Johnson inappropriately applied a discount because of the difficulty of access to the Hilltop lots in Uppaway. He also feels that it is too speculative to try to establish market conditions for the alleged eventual movement of the IPES line. Finally, he did his own comparable sales analysis, which included sales in the nearby Glenbrook subdivision and which was considered and rejected by Mr. Johnson. By including sales from such a nearby area, confidence-levels go up, he feels, and so do values.

Overall, Mr. Murray feels that the aggregate value of the Hilltop lots in Uppaway as of June of 1987 is some 2.025

million dollars, and as of January of 1982, 1.825 million dollars.

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DR. WATKINS MILLER, a UNR Professor in Soil Physics, Soil Chemistry and a teacher who lectures frequently in hydrology, testified that he was Mr. Guerrant's thesis advisor, and that Mr. Guerrant did not ignore the kinetic energy associated with rainfall. Instead, he simply used a conversion-equivalency from another expert.

As a thesis advisor, he feels that Mr. Guerrant's thesis is based on solid scientific analysis, the results of which will soon be published. Like Mr. Guerrant, Dr. Miller feels that the Cagwin type soils present in Lake Tahoe Basin possess low soil erodibility and that slope becomes a factor in such soils only in extremely unusual storm events, such as those which would occur on an average of every 200 years.

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PROF. MAHANNAH wa recalled to the stand to reinforce his position that nutrients which are channeled into the subsoil as the result of the action of the infiltration trenches in Uppaway are, for the most part, if not entirely, taken up by the overlying vegetation. Professor Mahannah testified that those waters and nutrients which percolate or settle to a depth of several feet are stored there momentarily, and the nutrients are taken up by the vegetation, which is so abundant that it could use up far *more* nutrients.

Prof. Mahannah agrees with Dr. Dunne's statement that the largest source of sediments comes from roadcuts, but he does not feel that there is any evidence of waterborn sedimentation through the gunnite stabilizing measures at Uppaway. He feels that what Dr. Dunne was observing were "tailings" from excavations by rodents in the vicinity. Professor Mahannah is undissuaded by the defense experts and feels more confident than ever that Uppaway is contributing nothing to Tahoe's pollution problems.

* * * * *

Finally, Mr. Timothy Durbin was again called to the stand by the Plaintiff to defend himself against the broadside attacks leveled by the defense experts who questioned his nutrient and sediment budgets. He defended, as well, the conclusions he draws respecting the insignificant role played by development on the loss of water clarity in Lake Tahoe.

Mr. Durbin testified that he is more firm than ever in his ultimate conclusions, stating that if it is true that the data he used to develop the budgets was too meager or too variable to be relied upon, then the similarly unproven and untested data which is relied on by TRPA, should also not be used to support a land use ordinance system such as IPES.

Responding to Dr. Goldman and to Dr. Byron, Mr. Durbin does not feel that organic particulates of phosphorous and nitrogen are very important, because most of those two forms of nutrients are not "biologically available". They are, instead, "refractory", which is to say that they biodegrade or decompose so very slowly that they become "labile" or unavailable for algal uptake. Thus, they do not play a significant role in the system.

Mr. Durbin defends his retrospective mathematical extrapolations as well. He notes that available data in the early 1960's showing a dramatic surge in nutrient loading helps guide the proper extension of the backward line and reinforces the accuracy and legitimacy of his model.

He uses Dr. Byron's statistics involving streamloading of six chosen streams to support a conclusion that data from those six streams, when plugged into his nutrient budget, demonstrate the relative role of development as to nitrogen deposition to be a 7% contribution, which is not that far from his 6% figure. He admits, however, that Dr. Byron attempted no similar extrapolations from the same data.

Regarding Dr. Cahill's analysis, Mr. Durbin feels that both Dr. Cahill's 36 ton per year estimate of atmospheric

deposition, as well as his own estimate of 51 tons, may be low. Available data shows that the concentration of atmospheric deposition from all sources is higher at the mid-lake buoy than at the Ward Lake stations. The Ward Lake watershed receives a lot more precipitation than does mid-lake. Mr. Durbin can't explain the reason for this differential, but the data does seem to show higher loading than might be gleaned from looking only at the Ward Lake data.

After listening to Dr. Coat's criticisms, Mr. Durbin was prompted to perform a statistical test subjecting his claims to standard deviation testing. Those calculations allow him to say now that the nitrogen budget could be off by plus or minus 1.2 tons per year, the phosphorous budget by 0.2 tons per year and the sediment budget by plus or minus 4,000 tons per year. Even with those deviations, however, his opinions remain the same.

Testing for standard error on the contribution of development, could have been off by as much as 1.7 tons per year for nitrogen, .3 tons per year for phosphorous, and as much as 5,500 tons per year for sedimentation, but again his opinions are unchanged.

Regarding Dr. Dunne's criticisms, Mr. Durbin refers again to the Hill and Nolan studies, where the major contributing factor to sedimentation comes as the result of drainage density and erosion occurring in the channel and on the stream banks as opposed to other theories where that sediment is transported from the slopes of the watershed to the stream. Basically, he feels that his opinions are based on empirical data, while Dr. Dunne's opinions are more theoretical.

On cross-examination he admitted that if he made a major computer software programming error, his independent analysis does not corroborate the Hill and Nolan analysis. He further admitted that some of the information on this topic came to him from verbal communication with Mr. Nolan; that is, the data supporting the hypothesis cannot

be found inside the Hill and Nolan paper itself. (Exhibit SSSS-5).

Concluding, Mr. Durbin feels that TRPA should stand back and take a new look at its IPES system because he feels that he has proven, at least generally, that the TRPA has erred in erecting the foundations of its land use regulation system on a study of hillside erosion and nutrient transport. These features, he feels, play such a small role in the overall dynamics of the contamination of the waters at Lake Tahoe that an entire system of land use regulation based on their tenets, is ludicrous.

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FROM THE VIDEOTAPE DEPOSITION OF DR. MARGARET DAVIS:

While she is qualified to hold a number of titles, DR. MARGARET DAVIS might be best described as a paleoecologist. A Fulbright scholar, Dr. Davis has taken a multi-disciplinary approach to her works, which allows her to predict what the past might have looked like — and what the future might look like — by examining pollen, grains, diatoms, sediments and the like which have been deposited on lake bottoms.

Comparing that evidence with known histories of development and other environment and geological data, Dr. Davis is able to form cross-disciplinary opinions about influences at work inside particular lake environments.

She has not had too much direct experience with Lake Tahoe (which she calls a world class lake), but she has examined a number of lake environments, both coniferous and desiduous, that possess important similarities. She has examined Tahoe data and compared that information against the data produced from extensive studies done in several other, mostly Eastern and Northeastern, lakes particularly

those known as Linsley Pond and Harvey's Lake. These lakes are similar to Tahoe because there was in each instance extensive early logging activities around each body of water followed, several decades later, by extensive house construction.

Dr. Davis feels that it is important to note that logging in "patches" (as opposed to clear cutting of major timber stands) allows the lake to "recover" as revegetation commences in the areas temporarily disturbed and prevents long-term excessive nutrient loading and algae production. She contrasts this phenomenon with permanent disturbances represented by house building, where the nutrient loading is more continous and unremitting and is concomitantly more lake-threatening.

She is not at all surprised, then, that Dr. Goldman and Dr. Byron were not able to detect significant damage to Tahoe's clarity during the late nineteenth century which may be owing to logging operations. She is also not at all surprised that they have discovered significant deterioration in Tahoe since the early sixties.

She also can find evidence of "mixing" of sediment at the bottom of Lake Tahoe. While sediments may "focus" or gravitate toward the center of the lake, there is no evidence of "focused" sedimentation from the logging period.

On cross examination, she admits that her conclusions about Tahoe are bases mostly upon her training combined with her analysis of existing studies and data. She has neither conducted nor supervised studies in the Tahoe basin, which has many dissimilarities (particularly in terms of its size and depth) from the lakes which were used as comparison points such as Linsley Pond and Harvey's Lake.

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This completes the Court's digest of the testimony adduced at trial. It's time now to announce the first of several legal conclusions which are based primarily on this evidence.

IV. FIRST CONCLUSION:

Concerning the first of the three major issues which need to be decided in this case, the Court concludes as follows:

> IPES IS BASED ON SOLID SCIENTIFIC PRINCIPLES; IT IS CLEVER, RATIONAL AND EVENLY APPLIED; IT IS ALSO CONFUSING TO THE AVERAGE PERSON AND IN THE GRAND SCOPE OF THINGS, INSUFFICIENT BY ITSELF OR IN CONJUNCTION WITH CURRENT PRACTICES TO MAINTAIN TAHOE'S CLARITY. THE REGULATORY SYSTEM PREDICATED UPON IPES IS VALID, HOWEVER, AND WILL STAY VALID AS LONG AS THE DEFENDANTS CONTINUE TO SHOW GOOD FAITH ON OTHER FRONTS.

V. FIRST DISCUSSION:

On Saturday morning, February 10th, the Court walked through the entire Uppaway subdivision during unseasonably warm temperatures. The snow pack from a storm a week earlier was rapidly melting.

One of the lakefront lots bears a home nearing the completion of construction. It was graced with an expensive metal roof. Snow melt was cascading off the roof onto the adjacent driveway. Two large wheelbarrows located in the driveway were already filled with water and overflowing waters dumped onto the street, where part was captured by the Plaintiff's much-discussed infiltration system. Because one of the wheelbarrows was positioned over a small crest in the driveway, some water was also spilling down towards the Lake.

The infiltration system did not immediately capture all of the water which was running on the asphalt roadway because in some places fugitive soil had been compacted on the

drainage rock, which overlies the trenches. In these places, the water migrated in rills downslope, but it was successfully captured by the junction boxes or "manholes" which seemed to be easily handling the flow. There was no evidence of recent overflows or spillage from the lateral drainpipes connected to these boxes. In other words, Mr. Kelly's infiltration system was working well, at least on that day.

Does that mean, then, that nutrient-ladened, algae-forming, overflows will never find their way from Uppaway parcels and slopes to the Lake?

Imagine, please, the year 2090. Indulge in a speculation that private vehicular access to the Lake has been curtailed, woodburning prohibited. Over the preceding 50 years no one with the watchful eye of a William Kelly has (behind the closed gate of Uppaway) prevented the Uppaway infiltration system from becoming seriously clogged with sediment having built up incrementally, year after year. A sudden hundred year storm causes rainwater to melt a snowpack, overburdening the infiltration system and causing sediment-ladened runoff to head toward the Lake. Is the runoff significant to algae production? Probably not, if that is the only runoff reaching the Lake. Is the runoff significant when considered part of the runoff sheeting off impervious surfaces such as rooftops and roads in subdivisions surrounding the entire Lake?

Put another way, is it irrational for the Tahoe Regional Planning Agency to place controls on residential development while it learns more about how Tahoe's delicate macrosystem operates and balances itself? Plain sense tells the Court that the answer to this question has to be "no". But posing and answering such a simple question unfairly deflects the thrust of what Mr. Kelly and his people are saying.

Mr. Timothy Durbin, Professor Clare Mahannah and the other Plaintiff experts would probably admit that some nitrogen and phosphorus may someday (at least during an extraordinary event) enter the Lake from the hillslopes of

Uppaway. They also know that Tahoe's magical clarity is being lost by reason of "cultural" or man-initiated activities.

Mr. Kelly's experts are merely trying to show that Uppaway's contributions are *de minimis*, that they just don't make a difference. Through these experts, Mr. Kelly's attorney is trying to prove that Uppaway's impact on the Lake, as an engineered subdivision, is so inconsequential on a global scale that further regulation of his client's property, and by extension, further regulation of other properly engineered subdivisions, is both unfair *and* irrational.

Because there is a lesson in their testimony (albeit a different one than the one they are teaching), neither this Court, nor anyone interested in Lake Tahoe's future should turn a totally deaf ear to the opinions of these experts. Mr. Kelly's case requires a careful examination.

The heat of Mr. Kelly's case comes from the research and the mathematical models and budgets created by former USGS scientist and administrator, Timothy Durbin. Mr. Durbin thinks he has developed a scientifically sound hypothesis which will debunk the foundations of IPES.

Part of Mr. Durbn's hypothesis is not impossibly complex. That is to say, it can be comprehended by most lay persons. He takes a known law in physics that applies to any substance, whether the substance is nitrogen, phosphorus, or even sediment loads. The law, which is called the "Law of Conservation of Mass", may be stated as follows: The difference between input and output equals the change in storage or inventory.

When he sought to apply this physical law to Tahoe, Mr. Durbin then used some in-flow data from several sources and stations which were monitored cooperatively in the 1980's by the Lake Tahoe Inter-Agency Monitoring Program (LTIMP). That inflow data was compared against other available data on out-flows at the mouth of the Truckee River.

A fairly simply mathematical calculation allowed him to determine the storage change. As examples of the magnitude of storage change, he offers the opinion that the storage change for sediment is some 24,000 metric tons a year, and for nitrogen, it is some 40 tons per year. A sample budget (for nitrogen) looks like this:

NITROGEN BUDGET
(METRIC TONS PER YEAR)

INFLOWS	PRESENT	STEADY-STATE
Streams	9.8	5.9
Atmosphere	56.1	8.5
TOTAL	65.9	14.4
OUTFLOWS		
Truckee River	5.3	3.0
Sedimentation	20.6	11.4
TOTAL	25.9	14.4
STORAGE CHANGE	40.0	0.0

His budgets rely upon a mathematical extrapolation to reach what he calls a new "steady state", a condition he feels to be a proper logical conclusion drawn from the model.

Using some aerial maps and some road maps, Mr. Durbin calculated an area which he assigned to all development in the Tahoe Basin (38 square miles, or approximately 13% of the whole basin area). He factored that gross acreage figures against all possible

stream flow sources of nitrogen, phosphorus and sedimentation, assuming a so-called "worst case" in which "all" offending material which could be attributable to the developed areas found its way to the stream source. His analysis then became a little more complicated, as he employed certain statistical regression formulae to develop baseline statistics for earlier years, such as 1960 and before; finally, he created some algebraic equations which allowed him to allocate the offending nutrients between developed area sources and all other contributing sources.

By so doing, Mr. Durbin compares the stream load with the atmospheric load both now and pre-1960 (present vs. "steady-state"), and using a formula of his own design:

$$\left[\frac{\text{nitrogen}}{\text{area of watershed}} = \text{coefficient } a + b\left(\frac{\text{streamflow}}{(\text{area of watershed})}\right) + c\left(\frac{\text{developed Area}}{\text{Area of Watershed}}\right)\right]$$

he solves for the relative contribution of development.

His conclusions about Tahoe's growing problem with algae are that out-of-basin sources of nutrients and atmospheric depositions of nutrients on the Lake's surface, taken together, literally dwarf the role which is played by streamborne nutrients which may be caused by residential or commercial development.

Putting numbers to these conclusions, Mr. Durbin feels that only 6 percent of dissolved nutrients can be blamed on development, (with the term "development" including both commercial and residential development). As to sediment loading, which he claims does not transport much nutrients, only 3,000 of the 24,000 tons per year of sediment are attributable to development under his theories and calculations.

The Court finds two general problems with Mr. Durbin's approach. First, the Court is not prepared to say that the magnitude of nitrogen and phosphorus at some 6% is a legally insignificant amount. Similarly, 3,000 tons of sediment is not in legal terms something which is necessarily "de minimis". This topic will be addressed at much greater length in a moment.

The Court has as second major problem: it is not persuaded that Mr. Durbin's underlying hypothesis merits great confidence. If anything, it is too bold, too sweeping, and just too pat.

The Court was reminded of a point-counterpoint situation set forth in a recent book by the iconoclastic author who first became popular in the 1960's, Ken Kesey.[1]

In an effort to justify the foundations of his personal, existential philosophy, an aging professor and mentor of Kesey's alludes to the abortive attempts of a Nineteenth Century physicist to disprove the Second Law of Thermodynamics, a principle which is not at all dissimilar to the Law of Conservation of Mass utilized by Mr. Durbin because it relies on the measurement of inflows and outflows (in this case not of nitrogen and phosphorus, but of energy):

> " . . . all . . . moving things of our world, all the marvelous, spinning, humming, ticking, breathing things should be doomed to run down and die . . . . We may be drifting for the rocks, but there is nothing we can do but stand at the wheel, helpless, and wait for the boat to go . . . down." Page 330 and p. 332.

After ten years of struggling with the notion of the utter futility of positive effort to bring new and resuscitating energy to human endeavors, Kesey's

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[1] Kesey, Ken, *Demon Box*, Viking Press, 1986.

autobiographical character, a fellow named Deboree, finally meets up with a young lady whose intellect challenges, and perhaps, surpasses the old professor's. Her rejoinder:

> " 'Entropy', she whispered behind her hand, like a resistance fighter passing a vital secret under the very nose of the enemy, 'is only a problem in a *closed system.*' " (Emphasis supplied) *Id.* at page 372.

This Court will agree that the laws of physics, such as the Law of Conservation of Mass and the Second Law of Thermodynamics, contain immutable principles.

Nonetheless, Mr. Durbin's calculations as to in-flows and outflows of nitrogen and phosphorus can only be measured with any exactitude in a *closed system.*

The evidence at trial shows that the Lake Tahoe Basin is not yet even in a position of being measured to the degree that it has the chance to be called a *closed system.* There are not just the 7 tributaries (which were measured by the LTIMP agencies) feeding Lake Tahoe, but there are some 107 tributaries or watersheds. According to all of the witnesses who testified on the subject, they dramatically vary in terms of their nutrient loading features. Even if comprehensive measurements are eventually achieved, the Tahoe basin is still too changeable, too dynamic, to be looked at as a *closed system.*

Dissolved nitrogen does not occur in the same concentrations near the surface of the Lake, as it is much more heavily concentrated as the bottom approaches. This has great significance when looking at measurements of nitrates and phosphorus at the shallow mouth of the Truckee River, as Mr. Durbin did. Woodburning stoves combined with temperature inversions trap particles close to the Lake during many weeks of the winter. Streams are subject to enormous fluctuations and variabilities in terms of the nutrient loading.

Several hundred forms of algae and bacteria act in the system and their proliferation pinch and swell.

At this point in the science of the examination of the decline in the purity of the waters of Lake Tahoe, Mr. Durbin's Law of Conservation of Mass and the budgets which he builds around that law are frightfully oversimple. There are no calculations or accounts for the transfers between organic and inorganic pools; there are no exacting calculations or accountings for the contribution of particulates of nitrogen and phosphorus as distinct from those same elements in their dissolved form; there is no scientific proof for his theory that near-surface bottom sediments have been "mixed"; there are no wind and atmospheric studies to show the precise mechanics of airborne depositions of nitrogen; there are no stream by stream comparisons of nitrogen uptake from nearby vegetation. None of the baseline studies which Mr. Durbin relies upon have redundancy safeguards, nor have they been tested over long periods of time. The precise "velocity" of depositions of nutrients is virtually unknown at present; there are as yet no systematic studies which compare the experience between the so-called, "dry" years and the "wet" years.

The authors of the unpublished but highly debated professional paper entitled "Suspended-Sediment Factors Lake Tahoe Basin California and Nevada", which is Exhibit 5 to Exhibit SSSS concede at page 9:

> "Longer and more continuous periods of record from a diverse set of tributary basins are needed to formulate predictive equations."

Mr. Durbin also admits that his numbers are not exact and that they may be subject to variation. He further admits that longer studies are needed in order to give additional verity to his hypothesis.

It may well be true that different numbers and longer studies will not change Mr. Durbin's overall conclusion, that atmospheric contributions are much more important

than streamflow contributions to nutrient loading in Lake Tahoe, but that, in a sense, begs the legal question. Different numbers and values may indeed change his conclusion that steam loading is insignificant — to a conclusion that it has *some* significance. That comparatively small differential is the very difference between arbitrariness and the lack of arbitrariness when the regulatory system and its postulates are taken under judicial review.

Goldblatt v. Town of Hempstead, 369 U.S. 590, 82 S.Ct. 987 (1962) demonstrates just how far the Courts will go to protect a legislative body's police power. In *Goldblatt*, the municipality sought to preclude further pit excavation by a gravel contractor by enforcing an ordinance prohibiting digging near the ground water level. In sustaining the reasonableness of the towns actions the Court stated:

> "Although one could imagine that preventing further deepening of a pond already 25 feet deep would have a de minimis effect on public safety, we cannot say that such a conclusion is compelled by facts of which we can take notice . . ." *Id.* at p. 595.

Many of the leading cases discussing standards of judicial review talk in terms of this "reasonableness" — but not "reasonableness" from the perspective of the Court; instead, they examine the issue from the perspective of the legislature or governing body. This shift in perspective was announced in the 1926 decision relied upon by the TRPA; *Euclid v. Ambler Realty Co.*, 272 U.S. 365, 388, 47 S.Ct. 114; which also coined the phase "fairly debatable" as the test courts should apply when they examine the rationale used by the rule-making body.

This Court does not have to adopt this shallow standard to decide IPES' validity, however, because the scientific underpinnings of IPES are not just "fairly

debatable"; they are persuasive. IPES may not go far enough in protecting Tahoe's clarity from other algae-forming influences, but as far as it does go, it is based on reasonable scientific study, in fact, on the very best science which is now available.

According to the experts called by the defense to rebut Mr. Durbin's theories, it is difficult to clearly describe the fragility of the Tahoe ecosystem. Before turning to a discussion of some of the substance of their testimony, however, a couple of them described a "tipping-of-the-scales" phenomenon which accentuates their opinions. According to Dr. Goldman, for example, "added" nutrient loading, or small accretions of nitrogen, phosphorus and trace elements to the Lake, has, in some cases, disproportionate and profound environmental effects.

The concept might be likened to an aspect of getting ready for a trip into the mountains. There is, along the line, one additional can of pork and beans which the pack mule just won't tolerate. A little more becomes way too much.

Dr. Goldman first takes issue with Mr. Durbin on the subject of nutrient budgets; he does not feel that scientists have yet reached the point at Lake Tahoe where they are able to create and interpret a nutrient budget, primarily because of the complexity of the system. For example, a nutrient budget, like the one developed by Timothy Durbin which (for nitrogen) rests primarily on measurements of dissolved inorganic nitrogen, ignores the significant contribution of organic nitrogen components which may in fact be more important than inorganic nitrogen by as much as a factor of ten. He states that the conversion of organic nitrogen into inorganic forms, and vice versa, is an immensely complex cycle involving numerous relationships between the atmosphere, vegetation, streams, wind, seasons, precipitation,

phytoplankton, bacteria, water temperatures, inner-annual mixing and photosynthesis. (*See* Exhibit U.)

Not only is the nutrient cycle itself enormously complex, but it is a dynamic process as well. For example, when Dr. Goldman first began to study the Lake, nitrogen dominated the process of algal production; the role played by phosphorus and trace elements did not then appear as comparatively significant. More recently, studies under his direction show not only that there is a heretofore unstudied large pool of organic phosphorus, but also that all forms of phosphorus have emerged to play a much more important role in the accelerated eutrophication of the Lake. What is more, phosphorus has a synergistic effect with nitrogen in changing the clarity of Tahoe's waters. Further, trace elements, such as iron, zinc and molybdenum, are playing increasingly important roles in the system.

Even though nitrogen is utilized by algae on an order ten times as great as phosphorus, phosphorus is now emerging as the "limiting" nutrient, becoming more important to the relative proliferation of these organisms.

These latter phenomena are important, he feels, because phosphorus and trace elements are linked to and/or transported by sedimentary erosion in ways more pronounced than by nitrogen transport through erosion.

Dr. Byron joins his colleague in taking issue with a number of Mr. Durbin's theories. While he may not dispute the notion that the Lake is capable of a "steady state" or a nutritional balance in the food cycles of flora and fauna in the Lake and basin, he rejects the notion that a predictable evolution is taking place, particularly with respect to nutrient storage and organic nutrients associated with sedimentation.

Mass balances may exist, but they are only momentary "snapshots" of a particular condition that is seasonably subject to great variation. Since IPES

measures prospective contributions of both organic and inorganic forms of nutrients, Dr. Byron states confidently that IPES is compatible with most scientists' understanding of the biological process taking place in the Lake's environment.

Even if the Court were to find Mr. Durbin's nutrient budget plausible from a theoretical standpoint, the budget itself does nothing to support his conclusion that winds are bringing pollutants to Lake Tahoe from the urbanized coast. He seems to be asking the Court to adopt a syllogistic leap — that if the streams LTIMP measured aren't bringing a significant percentage of nutrients from the hillslopes, and since no other source is apparent, then the "inescapable" conclusion is that the pollutants are airborne, brought in by the prevailing winds.

The conclusion does escape Dr. Thomas Cahill, who knows more about those matters than anyone appearing at trial, and Dr. Cahill's answer is, again, that it is not a scientifically valid method of inquiry to use a budget to dissect an environment by isolating and examining just one part of an ever-changing system. Along with hydrogen and oxygen, nitrogen and phosphorus are among the ubiquitous building blocks for all life forms living in the ecosystem. They cycle into and out of the atmosphere, into and out of plants and animals, into and out of the water itself. They are transported by a number of conveyances including winds, snow, rain, runoff, sediments, algae, fish, bacteria, streams, roadways, roofs and drainpipes. They can come from hillslopes like those in Uppaway, and they can come from automobile exhausts. They are stored, and they are released.

Man has moved into the Tahoe ecosystem and has drastically altered it. Particularly since 1950, development has changed the topography and the functioning of more than a hundred watersheds that play key roles in the nutrient cycle. Under these circumstances the law

permits reasonable regulation, even regulation that may substantially interfere with the free use of residential property.

It may not be possible to fully reconcile all of the language contained in several key opinions from the U.S. Supreme Court. On some issues, the guidance from the High Court is clear, unequivocal and uniform. For example, all of the pertinent cases require the governing body to prove that it is promoting a legitimate state interest.

That may be the simplest task facing the Court in this case. No one has suggested that the purpose of the Tahoe Regional Planning Compact (or the purpose behind the land use ordinances promulgated to implement the Compact, is anything but legitimate.

Subsections (3)(7) and (10) of Article I(a) of the Amended Compact (P.L. 96-551, 94 Stat 3233) read as follows:

> (3) The region exhibits unique environmental and ecological values which are irreplaceable . . . .
>
> (7) There is a public interest in protecting, preserving and enhancing these values for the residents of the region and for visitors to the region . . . .
>
> (10) In order to preserve the scenic beauty and outdoor recreational opportunities of the region, there is a need to insure an equilibrium between the region's natural endowment and its manmade environment."

Clearly, the Compact seeks to advance and protect a legitimate state interest. The dispute between the Plaintiff and the TRPA does not ripen until the foundations

for the implementing ordinances (IPES) are brought into focus.

The landmark cases which predate *First English Evangelical Lutheran Church of Glendale v. County of Los Angeles.*, 482 U.S. 304, 107 S.Ct. 2378 (1987), can be grouped in such a way that they can be cited for two distinct and competing standards for judicial review.

The first is the "rational relation" or "reasonableness" test previously discussed, where the regulations are upheld if the regulators could "fairly debate" the rationale behind their rule-making, *Goldblatt v. Hempstead, supra*, 369 U.S. 590. Arguably, most zoning matters, particularly those which create land use categories, fall under this heading, where the trial Court gives enormous deference to the legislatures and regulators. (*See*, e.g. the "manifest abuse of discretion" test which Nevada has adopted in *City of Henderson v. Henderson Auto Wrecking*, 77 Nev. 118, 359 P.2d 743, 745 (1961); and *McKenzie v. Shelly*, 77 Nev. 237, 362 P.2d 268 (1961)).

Starting about ten or twelve years ago, however, a trend gradually began to develop in certain kinds of property cases which is not at all dissimilar to the history of the emergence of special protections for fundamental civil rights in substantive due process cases.

It can now be argued that the legislative entity has a greater burden — to prove not just a "reasonable" nexus, but a *substantial* one — when its zoning and land use rules tell a landowner not just what kind of use is permitted, but also *when* construction can commence and *if* some major parts of the parcel can be placed to any use at all.

What is more, some regulators are now vulnerable to inverse condemnation or "takings" claims, which is the subject of the next Discussion Section. For now, the Court will briefly outline this emerging law of

"substantial relationships" without much mention of the "takings" dimension.

There is no question that the government can promulgate land use regulations that impair or defeat recognized real property interests, *Penn Central Transportation Co. v. New York City*, 438 U.S. 104 at 124, 98 S.Ct. 2646 (1978) [where the police power was exercised to preserve Grand Central Terminal as a historical landmark].

Two years later, in *Agins v. Tiburon*, 447 U.S. 255, 100 S.Ct. 2138 (1980), the High Court reviewed the police power exercised by a Bay Area municipality to preserve "open spaces" in a region of the northern San Francisco Bay. According to the Complaint, the ridgelands on a peninsula bordering the Bay contained some of the highest value parcels in the region, and the city had "completely destroyed" these values with its greenbelting ordinance (447 U.S. at 258). Nonetheless, the Court upheld the ordinance because it *substantially advanced* legitimate governmental goals to limit conversion of open space to urban use. (*Agins* also set the stage for *First English*, which is a "takings" case examined at length in the next section). Whether its actions were advertent or inadvertent, the *Agins* Court may have marked the beginning of the liberalization of the standard for judicial review in some real property regulation cases.

Agins was followed by *Nollan v. California Coastal Commission*, 483 U.S. 825, 107 S.Ct. 3141 (1987) where there is the strong suggestion that land use regulations are now subject to a new scrutiny when their implementation dramatically impairs the marketability of real property. Now, even if a regulation is reasonable, it must also have substantial public goals behind it and substantial causal connections with its ultimate objective in front of it. If it does not meet these tests, the ordinance may be invalid (or confiscatory, or both).

It seems now that trial courts must do more than examine a government's action for simple "reasonableness". The Court must:

> (1) compare the extent of the land-use restriction with the importance of the governmental objective; and
>
> (2) if the restriction is itself substantial, enter a finding that the ordinance as written will or will not likely achieve its stated objective.

It is true that neither *Agins* nor *Nollan* are factually similar to the case at hand. As noted, the zoning ordinance in *Agins* affected property which had not yet been subdivided into building parcels, as is the case with Uppaway's planned units. And in *Nollan*, the governmental purpose urged for public benefit involved an access-easement to a beach which had not previously existed. [The Court held that the public purpose must logically relate to the government's assertion of jurisdiction and remarked that building codes don't have much to do with easements]. So its hard to say whether the "substantial nexus" or "substantial public interest" test applies to all judicial review cases. Nonetheless, the administrative interference by the TRPA in Mr. Kelly's case is considered so substantial that the Court elects to apply the harsher test to the TRPA's endeavors.

In our case, IPES' restriction on "high-hazard" lands like the Plaintiff's, temporarily at least, is a complete one. Mr. Kelly can perhaps build out one or two of his lots in the next few years, but he has no assurance that during his lifetime he will ever be allowed to build out the remainder. One the other hand, the importance of the Compact's objective is also self-evident. Unless something is done to protect Tahoe's decline, her unique beauty will be forever lost. The case presents a classic clash between important interests on both sides.

On the second and controlling prong of the test, the Court concludes from all the evidence that IPES *is* rationally designed in such a way that it will substantially protect the Lake from contamination caused by activities on residential and commercial parcels. IPES is not a panacea, and IPES will not do the job by itself, but as far as it goes, IPES is built on solid scientific foundations.

* * * * *

While the Court has come down on the side of the TRPA by holding that there is a rational basis for IPES, (primarily because of the relatively greater precision and scholarship shown by defense experts), part of the big picture has not been illuminated by TRPA's studies. No matter what values one may assign to Mr. Durbin's theoretical nutrient budget, he *accurately* concludes that the LTIMP data shows an unexplained presence of sizeable quantities of nitrogen and phosphorus which *cannot be attributed to residential growth*, or to development generally, under anyone's theory.

Dr. Goldman admits that when he and Dr. Byron performed Lake bottom core sample tests, they were looking for evidence that logging and its consequent erosion caused a spike in algae growth in Tahoe during the late Nineteenth Century. If only for the reason that the Lake was able in a sense to almost immediately resuscitate itself, as Dr. Davis suggests, logging did not significantly increase the growth of these organisms. Modern-day chronic conditions other than just the building of homes, however, may bring Tahoe to a point where it is beyond saving.

If Dr. Cahill is correct that air masses arrive at Lake Tahoe from the relatively clean airsheds of the Pacific Northwest and that a lot of the airborne pollution which is carried to the Lake by winds has already settled or been "scrubbed" out, then the proportionate contribution of in-basin (but other-than residential) sources is a

puzzle awaiting a better solution, a solution which should be given a priority effort by the planning agency.

It is more from policy than from science that the TRPA chooses to call Tahoe's Cagwin soil types highly erosive. The better evidence shows that these soil groups are only moderately erosive under most circumstances. What the evidence does tend to show is that Cagwin soil becomes highly erosive when it becomes compacted. What the evidence also tends to show is that the soil group is highly conducive to a "rilling" phenomenon and that runoff produces serpentine channels through the soil as water runs from the impervious surfaces through drain pipes and gutters and into the soil. The evidence also tends to show that the problems of erosion, sedimentation and runoff are dangerously exacerbated during major storm events such as when warm spring rain falls on a major snow pack.

It may be time for the TRPA to rethink some of its standards such as the so-called "20 year event" drainage control management practice. In fact, it may be time for the TRPA to rethink and restudy a number of its current parameters. The evidence suggests a deficiency in the breadth of the management practices at Tahoe. Despite the work done to date by major scholars, there is an absence of a comprehensive coordinated scientific study upon which to comfortably rest coordinated planning measures.

There are some sources which may have as dramatic an effect on the water quality of the Lake as the combined effects of residential development. Consider, for example, the following inquiries:

(1) Exactly what percentage of the deleterious nutrient load may be coming from fertilized lawns, especially from golf courses in the South Shore, Edgewood, Glenbrook and Incline Village? There is probably enough evidence available now to regulate laws

management practices as there is evidence to regulate homebuilding.

(2) Consider also the Little Truckee River. If at one time some 40% of Tahoe's inflowing water wound and filtered through the wetlands and meadows which were partially covered by Tahoe Keys, how extraordinary an event was that to the fragile tolerance levels of Lake Tahoe? It has already been established in this case that the TRPA is not what one would normally consider a condemnatory authority, primarily because it simply doesn't have the money to condemn and purchase land such as Tahoe Keys. Is the wetland loss significant enough to go to a governing authority who would have funds to restore these nutrient-scrubbing wetlands? The experts don't yet have an answer to that question.

(3) If woodburning stoves and temperature inversions blanket Lake Tahoe with clouds of particle-laden smoke, then why isn't woodburning prohibited during certain climatic conditions? Isn't that nutrient and sediment source deemed significant enough for such regulation?

Experts don't have that answer yet, either, but the early evidence provides a sufficient basis for more stringent regulation than now occurs.

(4) If in-basin auto emissions might have a tendency to tip the balance, why isn't the TRPA taking a stand before the state legislatures regarding mandatory public transportation systems for visitors to the Basin and stringent automobile emission standards for its part-time and full-time residents, or is the relative contribution of automobile emissions too insignificant to consider these drastic measures? The experts haven't fully studied that problem yet either.

(5) Dr. Thomas Dunne offered convincing testimony that sheetwater on asphalt is capable of transporting pebbles ranging from fine particles up to the size of a tennis ball. Following snow and ice removal efforts by California and Nevada's transportation departments, that

kind of action must be occurring on public highways throughout the winter months, made worse by trucks, placing down sand and salts and made worse yet by vehicle traffic crunching the residues.

How many nutrients adhere to these particles? How many public thoroughfares are insufficiently curbed and guttered? How many more infiltration trenches are needed to mitigate road surface contributions?

From the perspective of the aerial photographs introduced at trial, the roadways of the Tahoe basin look like dark watercourses, and they must actually act something like watercourses, too, during rainfalls and runoff periods, because more "impervious coverage" is associated with roadways than with all rooftops and driveways in the basin combined. Logically then, at least as much attention needs to be paid to what is happening on these roads, as is now being paid to what is happening on private property.

This Court has determined that the IPES system, which slows residential growth and which requires best management practices, is a legal system because it makes plain sense and because it is evenly applied and not discriminatory. This finding is not an absolute one for all time, however. It is not very likely that the IPES line will move too much in a direction permitting much further residential construction until the contamination of the Lake has abated. Without a coordinated effort addressing far more than just residential development, there seems to be little hope that major improvements in water quality are going to come from regulating residential and commercial construction, when other nutrient sources are not being addressed and regulated with equal persistence.

It makes further sense, then, that if landowners are eventually found to be bearing a disproportionate part of the burden of regulation and if it turns out that lake algae continues to flourish and multiply, there may yet be a

point when IPES becomes legally unfair to the landowner and legally vulnerable to new challenges from people like William Cody Kelly.

* * * * *

It will be obvious to the attorneys that for several pages now the Court has been making observations that are mostly *dicta*; they play no role in the issues before the Court for present adjudication.

There is a final problem with IPES that falls into the very same category, that is, a gratuitous comment that plays no role in the decision. The comment is that IPES is unnecessarily confusing to an average person.

That a system may be rational does not necessarily mean that it is clear and easily understood by the Tahoe landowner.

For example, part of the IPES scoring process measures slope length and grade using the following formula:

$$LS = \frac{\sum_{j=1}^{n} (Sj)\left(j^{1.5} - (j-1)^{1.5}\right)}{1{,}022.47}$$

And the formula for measuring erosion hazard reads:

$$REH = \frac{899.72 - \sqrt{809{,}496.1 - 4(x^2 - 1065.45x + 202{,}612}}{2}$$

*(Formulas taken from Exhibit i-3, pp. 2 and 3 of the Technical Appendices to the Plan.)

Perhaps it is unfair to pick out and highlight these highly technical details. Perhaps also there is no more sensible way to approach the explanation than the approach the TRPA employs. Nevertheless, even experts who read IPES in its entirety have trouble interpreting it.

There may be something of a moral obligation for public servants to use their best efforts to demythologize their jargon, to publish simple statements like the following testimony from Mr. Ziegler (paraphrased):

> "There are 478 viable building parcels in Douglas County. Under current trends, it will be several years before lots with fairly low scores will be considered for permit approvals."

Perhaps as this litigation finally winds up, TRPA representatives will find a better atmosphere in which to utter plain statements like Mr. Ziegler's, statements about the use of private property which owners can rely on and plan for the future.

To conclude this Section, the Court finds:

1. That phosphorous and nitrogen and some important trace elements in Lake Tahoe are in fact increasing beyond their historical levels;

2. That increased levels of nutrients are in fact causing increased algal growth;

3. That increased algal growth and sedimentation do in fact cause loss of water clarity;

4. That sediment and nutrient transport from so-called "hazardous" residential areas are in fact having a meaningful and pronounced effect on the contribution of phosphorous and nitrogen and trace elements to the Lake.

On these grounds, the Court concludes:

1. That the IPES system examines runoff and erosion hazard characteristics of individual lots and anticipates the effect which development may have on sediment and nutrient transport; and

2. Even though the IPES point system, for the most part, discounts the mitigating effect which best management practices may have upon nutrient and sediment transport, it is, nonetheless, rationally based because it evenly and scientifically rates runoff potential and erosion hazard which might ultimately flow from the parcels it measures.

* * * * *

VI. SECOND DISCUSSION; THE TAKINGS' ISSUES:

The second major task facing the Court is to decide whether the TRPA has temporarily or permanently deprived Mr. Kelly of the beneficial interest of his property in such a way that it must compensate him for the taking under the Fifth and Fourteenth Amendments to the U.S. Constitution.

Before proceeding further into this discussion, the Court wishes to make a threshold observation to prevent confusion over semantics. In the previous Section, the IPES ordinances were determined to be "valid" because they rest on a rational premise and are reasonably designed to achieve the goals of the Compact. In other words, the Court has already decided that an unconstitutional taking has not occurred because the ordinances are not Constitutionally suspect in a substantive due process sense. The decision in *First English Lutheran Church v. Los Angeles County, supra*, raises the specter of a different "takings" issue altogether. An ordinance may be "valid" and still confiscatory. (In fact, it is hard to imagine a public purpose more "valid" or salutary than the effort by Los Angeles in the *First English* case to

mitigate the chance of handicapped children drowning in a flood, but the Court will defer for a few moments any further discussion of the special facts of *First English*).

The issue now under scrutiny in our case is not whether the TRPA's ordinances are a valid exercise of the police power belonging to the State Defendants, but whether the implementation of a valid ordinance works a condemnation of private property, and in this sense gives the Plaintiff a remedy recognized by the U.S. Constitution.

It might be best to begin the "takings" discussion with three issues which the Court has considered but has promptly rejected as having little application in this case. They are a so-called "facial" challenge, the claim that a permanent taking has occurred, and Mr. Kelly's claim of a temporary taking from 1982 until the new ordinances went into effect.

Agins, supra, is a pretty good example of a what a "facial" challenge is all about. In *Agins*, the appellants purchased five acres on a hill in Tiburon, CA. Because of the fabulous views from the property, they considered their acquisition to be a wise investment, at least until the city adopted two ordinances that zoned the property for use for single family dwellings only. They never sought approval for development of their land; they simply brought suit claiming that the ordinances were on their face unconstitutional. Ruling that the ordinances did not forcibly deprive the Agins of the best use to which their land could be put, the Supreme Court affirmed the California Supreme Court ruling upholding the ordinances.

Mr. Kelly has also mounted a half-hearted facial challenge. Like the Agins, however, Mr. Kelly must go behind the TRPA ordinances because they do not on their face deprive him of all use of his property; in fact, he has already placed part of his property to extensive use. (Note: deferred for later discussion is the

investment-backed expectation aspect of *Agins* and other cases).

The second relatively minor issue, at least from the Court's standpoint, is the claim that the Uppaway hilltop has been permanently taken. The argument is based on the fact that neither Mr. Ziegler nor anyone else can tell Mr. Kelly when he will be able to apply for building permits for the lots numbered 37, 34 (formerly #47), 33 (formerly #50); or 38 (formerly #51) which have all, despite an administrative appeal, failed to reach the 725 point "cut off" threshold value for building permit applications (*see* Exhibit 7-23c and YYY).

The burden is on Mr. Kelly to prove by a preponderance of the evidence that both a taking has occurred and that it is permanent. Without yet deciding the former issue, the Court finds that Mr. Kelly has failed to prove permanence. Mr. Ziegler and others testified that in the next several years the 725-point cut-off line is likely to move downward. The line needs to be lowered by only 33 or less points to make all four remaining lots eligible.

The third issue which the Court deflects away from primary consideration is the claim of a "taking" starting in 1982. Part of this claim has already been disposed of in the Order Partially Granting Summary Judgment. Between 1984 and 1987, the TRPA was under a federal court order to stop processing applications, and the Court has ruled this period to be non-actionable. In 1982 "case-by-case" reviews were the governing procedures, and in 1983, the TRPA placed itself under a moratorium.

Had the Plaintiff's subdivision been singled out for regulation, then his pre-1987 "takings" argument would carry a lot greater force. During this early period, however, the TRPA was trying to cope not with six lots, but with something on the order of 14,000 lots according to Dr. Twiss and Mr. Morgan. The TRPA's conduct

during this period might be described as more "deliberative" than "appropriative". Mr. Kelly's frustrations, particularly in the summer of 1983, are both reasonable and understandable (and will be further addressed in the Third Section), but they are ruled, once again, to be non-actionable, at least in a "takings" context.

Moratoria are exempt from claims of deprivation of property under the Fifth and Fourteenth Amendments as long as three ingredients are present. First, there must be some evidence of proper planning and good faith on the part of the government, *see*, e.g., *O.C. Const. Co., Inc. v. Gallo*, 649 F.Supp. 1331 (D.R.I. 1986); affirmed by *O.C. Construction Co., Inc. v. Gallo*, 836 F.2d 1340 (1st Cir., 1987) (where the court found a town council's efforts wanting in this respect). Second, there has to be a significant public purpose served by the moratorium, *see* e.g., *Schafer v. City of New Orleans*, 743 F.2d 1086 (1984) (where an ordinance prohibiting permits for neighborhood fast food restaurants during the pendency of a 10 1/2 month study was upheld). Finally, the moratorium must be reasonable in its duration, considering the complexity of the problem, *see* e.g., *Smoke Rise Inc. v. Washington Suburban Sanitory Commission*, 400 F.Supp. 1369 (1975) (where a five year ban in sewer hookups in a complex multi-jurisdictional drainage basin was deemed reasonable).

The self-imposed moratorium of the TRPA in 1983 meets all three of these criteria. The TRPA was acting in good faith, particularly when it is considered that they were under the threat of litigation by the State of California. The public purpose was, as earlier discovered, significant. The duration of the moratorium was reasonable in light of the complexity of the problems facing the TRPA.

* * * * *

With all preliminary matters out of the way, the Court can now focus on what it feels to be some truly intricate

and difficult Constitutional claims. In so many words, the U.S. Supreme Court has admitted to being unable to formulate set guidelines of general application which lower courts can use in a more or less mechanical fashion to determine when a regulatory "taking" of private property has occurred, because there are so many "ad hoc" factual inquiries unique to each case that need to be addressed, *see* e.g. *Keystone Bituminous Coal Ass'n. v. De Benedictus*, 480 U.S. 470, at 495, 107 S.Ct. 1232 (1986).

The Supreme Court's perplexion may be understandable. Although relatively few cases have come down since *Agins, supra*, the complexion of cases which have been reviewed by the Supreme Court differ dramatically from one another. Further, the pre-*Agins* line of "takings" cases is equally disharmonious, again because of factual dissimilarities.

One author has gone so far as to liken the elusive inquiry to a "hunt for the quark", C. Haas, Land-Use Planning 766 (3d ed. 1976), quoted in S. Loger-Friedman, "Constitutional Rights as Property?: The Supreme Court's Solution to the 'Takings Issue' ", 15 Columbia Journal of Environmental Law 31.

Despite the absence of a coherent pattern in the tapestry of "takings" cases, upon closer analysis some coherent, if subtle, principles do begin to emerge. For example, there is a group of cases which might be referred to as "*per se*" compensability cases, to borrow a term from a New York case briefed by both sides, *Seawall Associates v. City of New York*, 542 N.E.2d 1059 (1989). The common thread woven into the fabric of these cases is that some kind of *physical occupation* or *trespass* has occurred.

Nollan, supra, and the case quoted many times by the Plaintiff, *Kaiser Aetna v. United States*, 444 U.S. 164, 100 S.Ct. 383 (1979) contain examples of this thread. In *Nollan*, (as noted in the last section), the public was

given a permanent right to travel, without cost, back and forth across the plaintiff's beachfront property. In *Kaiser Aetna*, the public was granted the right to enjoy a private Hawaiian lagoon in exchange for a ruling which allowed the developer to dredge the lagoon and improve the navigability of its shallow waters. In both cases, the duty to the public imposed on the landowner as a condition to the issuance of permits had little if anything to do with the benefits awarded to the public by the rulings. Building codes and navigation rules are designed to promote the safe use of property; they don't say anything about *who* (outside the landowners and his guests) should benefit from the safety achieved by implementing the regulations. Put another way, if the public is invited to use private property, its government must pay for the use.

Naturally, the TRPA seizes on this point and invites the Court to decide from the evidence that there is nothing at all about IPES which is physically invasive. Mr. Kelly can keep his front gate locked, as far as the TRPA is concerned, and keep the public away from his property at his fancy. Unfortunately, the issue may not be as simple as determining whether or not IPES invites members of the public to come on or over private property for their own purposes.

Nollan, Kaiser Aetna and *Seawall* are all cases where the regulation is *inherently* invasive. The public's flag, so to speak, has been planted squarely on the property itself. However, there may be other forms of compensable regulatory "takings" which are not so obvious and not so physically invasive. The issue may involve more than dominion over lands; it reaches more subtle form of public *appropriation.*

The Plaintiff is asking the Court to examine these subtleties, to take a careful look at the genuiness of the TRPA's announced motives. If the TRPA is trying to disguise a hidden purpose — for example, to offer the

public unimpeded views of the Lake from the eastern shore (or for that matter views of the ridge from the Lake which are not interrupted by houses jutting out from the landscape) — then the TRPA is *appropriating* the Plaintiff's land in ways which *Nollan* and *Kaiser-Aetna* prohibit, even though members of the public may never set foot in Uppaway.

The TRPA has admitted in so many words to having a couple of agendas that can't be found in any official TRPA publications. When Dr. Robert Twiss reviewed the history of the development of IPES, he pointed proudly to the fact that no new subdivision lots have been approved in the basin since 1982 (*see* Exhibit Z-58), though he later offered the opinion that IPES is not a growth control measure.

Former TRPA director William Morgan is perhaps more forthright or insightful when he admits that IPES not only affects residential growth and land capabilities, but it also indirectly controls other facets of travel and development in the basin. Current Agency director David Ziegler states that IPES gives planners and the Forest Service the time to attempt to "retire" by orderly purchase a number of very high hazard lands before further building is allowed on moderately erosive parcels.

Obviously, the issues of carrying capacities have been very much on the minds of the staff and management of the TRPA since the outset. It is equally obvious that carrying capacities and staged growth were on the minds of the participants in the Consensus Building Workshops.

Perhaps no clearer example of this proposition exists than in the transmutation and incorporation of the Bailey Land use coverage formulas into the IPES measurements. When Mr. Foster looked to the technical details of changing the Bailey system, he admits that the first "curve" for allowable land coverage under the tentative

new Relative Erosion Hazard formulas embraced too many parcels, that too much building might commence too quickly unless greater differentiation were achieved. That's what gave rise to the complicated mathematical formula quoted earlier on page 88. For his part, Mr. Ziegler admits that the allowable land coverage formulas were mathematically "tweaked" (not his word) to give the percentage land use coverage a more even curve between the five and twenty five percent categories. Clearly, these were growth control *policies* being infused into IPES by administrative, not scientific decisions, just as growth control policies were infused into ordinances 81-1 and 81-5. Just as clearly, the TRPA does not want to see the Tahoe Basin subject to a rapid build-out and the Agency is intentionally controlling absorption rates with its IPES cut-off line.

Nonetheless, whatever the personal views of its authors and architects, whatever policies have helped guide its creation, IPES is there to be examined by objective standards.

IPES' official purpose is not to preserve a Tahoe wilderness (which has probably been already lost for over a century) or even a diluted form which author Gretel Ehrlich calls a "wildness" in her book, *The Solace of Open Spaces*[2] Ostensibly, IPES has nothing to do with open spaces or greenbelting. IPES stated purpose is to foster the continuing clarity of Tahoe's water. It either helps to accomplish that goal or it doesn't, and this Court has ruled in the First Section of this decision that IPES *is* rationally designed to help achieve that particular goal, which is one goal among many expressed in the Compact. Whatever confiscatory impact IPES may have, it does not come from a covert appropriation of land for public benefit; the appropriation is either overt or it is nothing at all.

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[2] published by Viking Penguin, Inc., New York, New York, 1985.

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This, after all these many pages of discussion, leads finally to what the Court feels to be the single most powerful Constitutional challenge which Mr. Kelly's lawyers have effectively mounted. The stage is finally set to place *First English Lutheran Chuch* in the spotlight. The issue may be stated this way: Have four or more of the lots on the Uppaway hilltop been temporarily "taken" since 1987 so as to give Mr. Kelly a right to money damages, the remedy now available to an inverse condemnee?

First English is both peculiar to its own facts and wide-reaching in its effect. In 1957, an evangelical church in Glendale, California purchased a 21 acre parcel in the bottom of a canyon in a National Forest which is part of a major watershed.

Twenty years later, 4000 forested acres in the watershed were destroyed by fire, and seven months after that, a major storm event sent a wall of water and mud down the canyon which caused extensive damage and cost ten people their lives. Fortunately, no lives were lost on the Church's parcel known popularly as "Lutherglen", but all of the buildings and curtilage were destroyed.

A county ordinance adopted after the flood prohibited the Church from reconstructing or improving their retreat, and the Church brought suit. At the close of its case, the trial court non-suited the plaintiff respecting its inverse condemnation claim and this ruling was upheld by the Court of Appeals.

The U.S. Supreme Court, however, reversed the Court of Appeals in an opinion authored by Chief Justice Rehnquist. Assuming *without finding* that the County ordinance had denied the Church all use of its property for several years, the High Court announced clearly for

the first time that the remedy for temporary regulatory takings is *monetary compensation* under the Constitution. The case was remanded back to California for further findings on issues of liability and, if liability were proven, for a calculation of damages.

In an effort to limit its applicability to the case at hand, the TRPA rightly emphasizes that the U.S. Supreme Court's decision in *First English* created only a remedy and went no further. This point was also stressed when the case went back to the California Appeals Court, 258 Cal.Rptr. 893, (Cal.App.2 Dist. 1989) where Justice Johnson stated at p. 897:

> "The United States Supreme Court in *First English* made it abundantly clear the Court was deciding the remedies issue — and only that issue."

He later quoted the following language from the Supreme Court opinion of Chief Justice, Rehnquist:

> "We accordingly have no occasion to decide whether the ordinance at issue actually denied appellant all use of its property or whether the county might avoid the conclusion that a compensable taking had occurred by establishing that the denial of all use was insulated as a part of the State's authority to enact safety regulations. (Citations omitted.) These questions, of course, remain open for decision on the remand we direct today . . . "

The California Court then went on to decide that the Church was *not* denied all use of the property (which had been used previously as a campground) and that the public interest in preventing death and injury from floodwaters overwhelms the private right to construct dwellings. The California Court also noted that the ordinance is an interim measure pending the completion of a comprehensive flood management plan. As it had done on the first appeal, the California Appeals Court

sustained the trial court's dismissal of the plaintiff's inverse condemnation claims. As distinguishable as *First English* might be from *Kelly v. TRPA*, the case is not entirely without application. And while the U.S. Supreme Court did not reach liability issues, the subject is discussed at length by the California court on remand. Concededly, a state appellate court's comments obviously don't have the same force and effect as an opinion of the U.S. Supreme Court, but Justice Johnson offers some telling observations:

> "If there is a hierarchy of interests the police power serves — and both logic and prior cases suggest there is — then the preservation of life must rank at the top. Zoning restrictions seldom serve public interests so far up on the scale. More often these laws guard against things like "premature urbanization", or "preserve open spaces", or contribute to orderly development and the mitigation of environmental impacts. When land use regulations seek to advance what are deemed lesser interests such as aesthetic values of the community they frequently are outweighed by constitutional property rights. Nonetheless, it should be noted even these lesser public interests have been deemed sufficient to justify zoning which diminishes — without compensation — the value of individual properties. *Id.* at 904.

If, as Justice Johnson states, there is a "hierarchy" of police power interests, IPES' objective to preserve water quality would probably have to fall into the "lesser" category of aesthetic interests, which, under Justice Johnson's theory, makes the land use regulation more suspect when weighed against a property right. What is more, Mr. Kelly has had no prior use of the property (at least there is no evidence of camping or other beneficial use of the hilltop during his ownership). The TRPA is

telling Mr. Kelly, temporarily at least, that he simply cannot further build on at least four of his lots.

It is difficult, then, if not absurd, to avoid calling the effect of the TRPA's code of ordinances on the Uppaway hilltop anything other than a temporary appropriation or taking for a public purpose.

There is, however, one fundamental, perhaps pivotal, difference between Mr. Kelly's case and the plight of the First English Lutheran Church. Except for the argument that it is avoiding substantial risks of liability to its guests and invitees, *the Church is deriving absolutely no benefit from the* Los Angeles *ordinance* which temporarily precludes construction of new improvements. In contrast, every single one of Mr. Kelly's lots will eventually diminish in value if Lake Tahoe is despoiled. IPES is a burden, surely, but it also conveys significant *personal benefits* to each landowner it serves. The Tahoe ordinances do not just benefit the public, they specially benefit private property.

This single feature makes the Kelly case vastly different from *First English* because when an observer places the two competing interests on a mental set of scales, and when the package of public benefits is weighed against the burdens imposed on an owner of property, an allowance *has* to be made for the fact that the benefit package *includes* benefits to the property owner himself. Not only are the burdens partially offset in this scenario, but the scales begin to tip in favor of holding the regulation's effects on land use to be non compensable to the property owner because he (or she) too is deriving a partial reward from the regulation. Put another way, the only sensible and defensible way this Court can find to reconcile the competing interests and the conflicting legal precedents is to conduct a weighing of interests approach.

Mr. Kelly would be as unsuccessful as the appellants were in *Penn Central, supra*, if he were to argue that he

is "solely burdened and unbenefitted" 48 U.S. at p. 134. Just as the judgment of the New York Council benefitted all New York citizens and structures, *Id.*, the Compact benefits all Tahoe residents and lots, "both economically and by improving the quality of life", *Id.*

After examining the restrictions on private building and weighing them against the benefits received, the Court reaches the following conclusion:

> AS LONG AS THE BENEFIT RECEIVED BY THE PROPERTY FROM THE ORDINANCE IS *DIRECT AND SUBSTANTIAL* AND THE BURDEN IMPOSED IS *PROPORTIONAL*, THE TRPA CAN FORCE LANDOWNERS LIKE MR. KELLY TO POSTPONE THEIR BUILDING PLANS FOR A *REASONABLE PERIOD* OF TIME.

The terms "direct", "substantial", "proportional" and reasonable period" are underscored because they have special implications. "Direct" and "substantial" simply mean that, taken together, the Regional Plan, the Code of Ordinances, and the Rules of Procedure of the Tahoe Regional Planning Agency are rationally designed, and they are working to achieve the goals of the Compact. The Court has already ruled on the issue of rational design and the early evidence is that the ordinances are helping to achieve their stated purpose of maintaining the unique beauty which is Tahoe's special lure to lot owners and tourists alike.

"Proportional" simply means that the burdens are equably distributed. In the context of IPES, for example, the high hazard lots bear a greater burden than the low hazard lots from a number of standpoints, including land coverage and management practices such as slope stabilization, and so they should. IPES as it now stands is proportional. The term "reasonable period of time" requires a bit more of a context.

Mr. Durbin's analysis of existing data is cogent enough to give the Court grave misgivings over whether the 1987 plan will succeed unless the TRPA links IPES to a chain of other stringent management practices which will further reduce the amount of nitrogen and oxygen entering the Lake. The Court obviously can't say what those measures are or how stringent they need to become, but Dr. Goldman and Dr. Byron have some ideas:

> "A better understanding is needed of the various ways that nutrient pollutants reach the lake. Further information is required to assess how quickly and to what extent fertilizers applied to the basin's lawns and golf courses travel to the lake . . .
>
> Applied research can provide a more sound basis for urgently needed regulation of fertilizer use . . .
>
> A small-scale, but essential, research project could identify the actual magnitude of the sewer line leakage problem. The extent and significance of shoreline erosion requires further investigation . . .
>
> There is a need to characterize the relative amount of nutrient inputs from direct atmospheric loading . . . . (from page 12 of Exhibit SSSS-8).

Every year, Dr. Goldman drops his secchi disc off the back of Mr. Le Conte's boat. Every year, he concludes from his visual observation that the Lake has lost further ground, so to speak. Every year that goes by will record a self-proving or self-disproving chronicle of the efficacy of the Regional Plan for the Lake Tahoe Basin.

The burden/benefit approach the Court has selected may be nothing more than a euphemism for the recognition of a legally permissible building moratorium on certain high hazard lots. Because the Court has given

Mr. Kelly some relief in the Third Conclusion, the Court doesn't really have to reach or decide anything more in this Section than that Mr. Kelly has failed to prove his inverse condemnation claim. Whether and when IPES may become confiscatory (unreasonable) will be a moot issue for Mr. Kelly if the Third Conclusion stands up on appeal.

Indulging in a moment of speculation, however, how much time needs to elapse before IPES becomes Constitutionally suspect? Of course, a problem will never arise if water clarity starts to improve, and as a consequence, the IPES line is moved down. However, that is unlikely. It is more likely, from the evidence, that the TRPA is going to have to get its "hands around" other contamination problems, so to speak, and start regulating them before the water quality will improve and owners of high hazard lands will have the chance to apply for building permits.

Five years was considered a reasonable period of time in *Smoke Rise, supra.* Fourteen years was considered to be clearly excessive in *Urbanization Versailles, Inc. v. Rivera Rios*, 701 F.2d 993 (1983). Of course, those cases stand on their own factual situations, which vary considerably from the case at hand. Nonetheless, is it reasonable to ask a person to wait more than ten years to put his or her lands to a proper use?

* * * * *

The Court's rejection of the *First English* claim also moots a final "takings" issue which received extensive attention at trial and again in the briefs.

Two cases whose captions start with "Penn" are the standout U.S. Supreme Court cases articulating the concept of so-called "investment backed" decisions to acquire real property, and they guide the legal analysis measuring when a diminution in property value is justifiable because of an exercise of police power.

Penn Central Transportation Company v. City of New York, supra, it will be recalled, concerned the decision of a corporation to "swallow" the historic Grand Central Terminal with an overlapping office building rising high above a cantilevered platform over the terminal's roof. Writing for the majority, Justice Brennan concluded that the historic designation did not prohibit the Plaintiff from profitably using the building as it had been used for sixty-five years, which ". . . must be regarded as Penn Central's primary expectation concerning the use of the parcel", 438 U.S. at page 136.

Penn Central borrows heavily from the other "Penn" case, *Pennsylvania Coal Co. v. Mahan*, 260 U.S. 393, 43 S.Ct. 158 (1922) where it became commercially impracticable to exploit some subsurface coal mining opportunities when a Pennsylvania statute prohibited mining activities which might cause houses to subside. Since the coal company had deeded away the surface rights that supported the houses, it could have "expected" the regulation result as part of the downside risk of its contracted bargain; *see also*, another more recent coal mining case, *Keystone Bituminous Coal Ass'n., v. De Benedictus*, 480 U.S. 470, 107 S.Ct. 1232 (1987).

At trial in this case, witnesses disagreed vehemently over what Mr. Kelly's investment expectations were: whether he sought only to recapture his investment and provide himself and his family with a home; whether he in fact has done far better than that (as the TRPA claims); whether he has lost money (as Mr. Walsh claims). Appraisers were all over the map, so to speak, on their selection of sites for comparable sales analyses and evaluations.

This, however, doesn't matter. This controversy does not have to be adjudicated. The Court has ruled that the IPES ordinance is valid and that no inverse condemnation has taken place. The "Penn" cases and their progeny should be used as benchmarks only when it is

otherwise unclear if the ordinances are reasonable or unreasonable, confiscatory or not. The court does not need to reach out to investment-backed expectation criteria to decide this case.

* * * * *

The Court's Second Conclusion, which is perhaps more purely a legal conclusion than the First, is found on the next page.

VII. SECOND CONCLUSION

NEITHER THE 1987 REGIONAL PLAN FOR THE LAKE TAHOE BASIN NOR THE CODE OF ORDINANCES, NOR ANY PREDECESSOR PLAN OR ORDINANCE, HAVE DEPRIVED MR. KELLY OF HIS INTEREST IN PROPERTY IN A MANNER REQUIRING COMPENSATION UNDER THE FIFTH AND FOURTEENTH AMENDMENTS TO THE UNITED STATES CONSTITUTION.

VIII. THIRD DISCUSSION; THE "ADJUDICATED RIGHTS' CONTROVERSY:

The two previous legal conclusions leave one final issue unresolved: Has Mr. Kelly established some kind of prior adjudicated preference or right by reason of Judge Thompson's "deemed approved" order in the prior litigation and, if so, is Mr. Kelly partially exempt from the full force of the 1987 ordinances?

In a pre-trial order partially granting summary judgment, this Court ruled that Mr. Kelly cannot claim direct ownership of a "vested right", as that term has come to be defined, since almost all decisions establishing a vested right require the landowner to prove that his project has developed to the point where building

permits have issued, *see, Fernhoff v. Tahoe Regional Planning Agency*, 622 F. Supp. 121, 123 (D.Nev. 1985), *aff'd.* 784 F. 2d 284 (9th Cir. 1986).

Mr. Kelly's counsel argues that the time has come to adopt a less harsh test for "vesting", citing a well-written Hastings Law Review article (at 27 Hastings L.,R. 623) and a 1976 Southern California case, *Avco Community Development v. South Court Regional Planning Commission*, 553 P.2d 546 (1976). Perhaps administrative decisions short of building permits *will* suffice under certain circumstances, but *AVCO* offers no guidance on the degree of "specificity and definition" of what might be termed a "functional equivalency" to a building permit, because in *AVCO* the developer had wholly failed to even file a precise and detailed building application. Since *Fernhoff* is primary authority, this Court (which operates at the trial level) declines an opportunity to modify the enunciated limits of the vested rights doctrine upheld by the Ninth Circuit Court of Appeals. Rule changes are for appellate courts.

Mr. Kelly also relies heavily on the two *Leroy Land* cases, but they too are inapposite. The Ninth Circuit did *not* overrule the District Court in *Leroy I* (543 F.Supp. 277) (1982), because the case was settled before the appeal was heard, reserving for further litigation a legal point which the lower court recently decided in *Leroy II* (CU-R-81-202 ECR (1990)). And *Leroy II* is really little more than a specific application of the *Nollan* doctrine.

There, the Federal District Court found an insufficient nexus between the 1987 Plan and a requirement to pay *hundreds of thousands* of dollars for *off-site* measures having little if anything to do with Leroy Land's Bitterbrush project. The *Leroy Land* cases do not change the law of vested rights; they simply extend the *Nollan* doctrine.

Vested rights issues notwithstanding, these parties have already been in Court over this subdivision on

several substantive issues, and the precedents established therein have become the law of this case unless intervening circumstances or laws dictate otherwise. Mr. Kelly's counsel accurately cites a rule in this State which has been extant now for over a century; once a matter has been "fairly tried" by a "competent tribunal", it is over. *See, Lee v. McLeod*, 17 Nov. 103, 28 Pac. 124 (1882) (quoted at p. 18 of Plaintiff's Opening Post-Trial Brief.)

TRPA argues, in reply, that Mr. Kelly has hoisted himself by his own petard, so to speak, because counsel claims he has been dilatory:

> Indeed, if Kelly, because of the Thompson decision, is blessed with immunity to regulations enacted well over a decade later, we can cast to the wind any planning effort, such as IPES, regulating the timing of building and the amount of land coverage on vacant subdivision lots. . . . His repeated delays in proceeding only would be rewarded. (Opening Post-Trial Brief, Part I, p. 39).

This argument is unpersuasive for the same reason Mr. Kelly's pre-1987 condemnation claims aren't persuasive: both parties were doing what they could under trying circumstances. Mr. Kelly planned to improve and sell off units in the subdivision in orderly phases, with the lakeshore lots to go on-line first, the tennis court lots to follow, and finally he turned to the hilltop. No unreasonable delays interrupted this orderly procession until 1982 when he applied for case-by-case review. After that, it was TRPA's turn to slow and then halt progress, until the Federal Court order halted everything. Mr. Kelly is not guilty of laches.

TRPA counters with an assertion sounding somewhat curious from an agency as vigilant as the TRPA has been regulating Uppaway:

> "To be sure, had Mr. Kelly genuinely believed his project possessed some evanescent

> "adjudicated" status, which he now argues, why would he testify — on direct examination — that "in late July of 1982 we applied for a case-by-case review on six hilltop lots and as I recall paid the filing fee of $200.00 per lot." III:429. Why didn't Mr. Kelly just proceed to build?"

Unless the interim negotiations between 1975 and 1982 conferred some new jurisdiction over Uppaway on the TRPA, it is entirely likely that Mr. Kelly did *not* have to apply for a case-by-case review in 1982, just as TRPA counsel now suggests, but TRPA did *nothing* at the time to dispel Mr. Kelly of the notion that he did.

As Mr. Kelly's counsel so aptly notes (on pp. 5 and 6 of his Closing Post-Trial Brief), Article VI of the Compact (in force at the time) provided civil penalties of $5,000.00 *per day* for any ordinance violations. Small wonder that Mr. Kelly chose the conservative course of action (as any law-abiding citizen might have) by filing his application with the Agency for case-by-case reviews.

TRPA should not be criticized for advocating a position contrary to Mr. Kelly's; it's staff obviously didn't like the coverage aspects of the Uppaway subdivision from the outset. Similarly, TRPA had no legal duty to liberally interpret the federal court ruling and tell Mr. Kelly to proceed without a review. By the same token, TRPA should not now be heard to tell Mr. Kelly in retrospect that he probably should have ignored their sabre-rattling and gone forward in 1982 and because he didn't, that he has waived his federal court ruling and advantage by his inaction.

The record is replete with evidence showing good faith efforts on Mr. Kelly's part to complete the hilltop; see, for example, the series of correspondence running from Exhibit 1-10 through 1-20. Both sides were uncertain exactly what the continuing jurisdiction of the

TRPA was, both wishing to go forward, with rights reserved if necessary. For example, Mr. Owen states in paragraph 1 of Exhibit 1-15:

> "1. Your clients shall submit, or cause to be submitted, to Gordon Barrett of TRPA staff a copy of all construction drawings and other pertinent information with respect to the proposed construction of improvements relating to Lots 33 through 39 of Uppaway Estates, including the proposed road, TRPA agreement that by submitting such information, or by causing it to be submitted, your clients do not waive or otherwise detract from any legal right or contention possessed or maintained by them; and . . ."

In the penultimate quote from TRPA's opening brief, counsel refers to Uppaway as consisting of "vacant subdivision lots". If that's all Uppaway consisted of when it was "deemed approved", then there would be no issue; there would be no question of any advantage, period.

As a specially-engineered "planned unit development", however, Uppaway is far more than a traditional subdivision. And TRPA knows this:

> "[w]hat was "deemed approved" as Uppaway Estates under Article VI(k) of the 1969 Compact was a tentative subdivision map for 39 vacant, 2,500 square-foot lots *and a permit for "excess coverage" under Section 8.25 of the Land Use Ordinance.* (Emphasis supplied) (Opening Brief Part I, p. 44).

When Uppaway became legally approved, the subdivision map was not just a device which created new and smaller parcels from a larger parcel. The "approved" permit stated exactly how many rooftops, roadways and driveways would interfere with the natural

state of the topography and the nitrogen and phosphorus absorbing features of the soil and vegetation.

Although it's pagination is poor, Section H of the Ray Smith report (Exhibit 39) contains the "heartwood" of Mr. Kelly's 1974 application and allows for 4.88 acres of coverage (212,900 square feet), which was approximately 4% more than what land use ordinances were allowing at the time and probably 7% to 9% more than what the ordinances would now allow. This Court thinks and concludes that the land coverage contained in the Ray Smith report represents an already adjudicated issue favoring Mr. Kelly, and the "deemed approved" stamp is what makes Uppaway different from any other subdivision in the Tahoe basin.

If IPES has an affect on the landowner which predominates over others, it is probably in the area of dictating acceptable land *coverage*. So to the extent that land coverage issues under IPES are in conflict with the land coverage issue adjudicated by the federal court, it is this Court's judgment that IPES must give way to the federal court decision.

Nevada has a strong legal tradition sanctioning planners from changing their minds about permissible uses after existing zoning and land use ordinances have encouraged a developer to invest substantial sums in reliance on prior representations, (*see* for example, *City Council, Reno v. Travelers Hotel*, 100 Nev. 436, 683 P.2d 960 (1989)), and the even more recent case of *Nova Horizon v. City Council, Reno*, 105 Nev. Adv. Opinion 18 (No. 165595 Feb. 28, 1989), where the Court's attention was riveted to a use clearly in conformity with a master plan.

TRPA's 1975 approval — even though it was a "deemed" approval and even though it required TRPA's begrudging consent to a federal court order — nonetheless amounted to pretty much of an official master plan for Uppaway. The issue of how much coverage would

be permitted was an integral part of the plan. The ordinances, then, and IPES now, were built pretty much on the same premises of erosion potential cause by slope and soil conditions. The Bailey categories had an important role then, and they do again today. Knowing all about the risks, TRPA gave (was forced to give) its imprimatur to Mr. Kelly's land coverage application; it would have to show compelling reasons indeed, to go back on its earlier undertaking, and the Court finds these reasons lacking in this case.

What is the effect of this ruling?

First, it does not exempt Mr. Kelly from the routine requirements of the 1987 Plan. Mr. Kelly must comply with all current environmental and construction standards, grading ordinances, building site use and preparation regulations, water supply rules, sewage service, tree removal criteria, revegetation, exterior finish, height restrictions, etc., etc.

The non-routine aspects of the 1987 Plan and ordinances, taken together, transmit a rather tangled set of messages to a building aspirant concerning *whether* he or she can build at all, and if so, on how many parcels? *What* size structure is permitted, and *when* may building commence?

IPES, in particular, addresses the latter two categories, because the IPES scoring decision aids planners in knowing when to give approval and, once approved, in factoring the amount of land coverage available under the modified Bailey land use categories.

Since this Court has ruled that the prior federal court ruling is dispositive on the subject of how much land coverage is available to Mr. Kelly (at least in gross square feet), the only legal impediment to Mr. Kelly proceeding straight away to building or selling his hilltop relates to that feature of his IPES scores, which preclude commencing construction on four of the six lots (for the time being anyway) because those lots have

received scores that fall beneath the 725 point cut-off line.

A pretty good argument can be made for forcing Mr. Kelly to wait like everyone else before he commences construction of residences on these four hilltop lots. After all, they are located in a so-called "high hazard" area of generally steep, rocky terrain. Additionally, the prospective nutrient hazard from these lots is made worse by the "excess" coverage available to the forty-four acre parcel. This excess is more than allowed under all past ordinances and is particularly excessive under the 1987 ordinances which incorporate IPES and the modified Bailey standards.

Dr. Goldman and Dr. Byron feel that Tahoe may be approaching an ecological calamity, bending beyond its breaking point so to speak, considering the cumulative effect of nutrient deposits basin wide. However miniscule the relative contribution from these four lots might be, they could potentially tip the scale. They could be scale-tippers, that is, were it not for the engineered infiltration system.

Never, during the period of time the system was designed and installed, did the Plaintiff evidence any callous disregard for the nutrient transport sensitivities of this project. The design which he commissioned for the so-called "offsite" improvements (every place but building pads) was in every respect above-standard: the contractors did a workmanlike job of installing the tilted roadways, the infiltration trenches, the junction boxes and other facets of the system; appropriate warning signs telling people to stay off the rocks are strategically placed on roadways; the asphalt appears evenly sloped and well-maintained.

Mr. Ziegler has every reason to cast a wary eye on man-made mitigation measures such as the infiltration trenches. He reports many examples of instances where man's efforts to improve upon or install substitutes for

natural processes of nutrient uptake have been disastrous and so does Mr. Morgan (*see* for example, Exhibit AA which is the log of 35 mm. slides which Mr. Ziegler prepared and in particular, slide 12 showing erosion and sediment at Biggler Circle and slide 44, a destroyed filter fence at the south shore. Other examples can be found in Exhibit Z-13, the videotape authenticated by Mr. Morgan).

In the same slide show, Mr. Ziegler pointed to problems with erosion sediment transport and revegetation around infiltration trenches at Uppaway. The Court has no doubt that Mr. Ziegler is right when he maintains that, left unmonitored, the effectiveness of the system of trenches could be destroyed in a matter of years, particularly by filling and compaction.

On the other hand, there is absolutely no evidence that the infiltration system has ever failed, at least in the upper reaches of the subdivision, even though it has been in place now for several years. The hilltop lots are located in places which are as flat as feasible. The lots, themselves, are quite a distance from the shores of the Lake and migrating water, even subsurface flows, would have to pass through a portion of the redundant system, as well as through several hundred feet of fairly heavily vegetated open space before reaching the lake. As long as the infiltration trenches are cleaned and maintained, the evidence shows that the likelihood that lots 33-38 would generate nutrient transport reaching Lake Tahoe is practically non-existent.

A housekeeping detail. The Court didn't hear much evidence concerning Mr. Kelly's dispute with the homeowners association, but as far as the hilltop alone is concerned, it would not be unreasonable for the TRPA to exact a performance bond of some kind, assuring (upon default of a maintenance covenant) a fund to regularly clean up and maintain those sections of the infiltration system abutting and accessing the hilltop. Eventually, it

would be a good idea to make such standards uniform for all of Uppaway.

* * * * *

Only two sub-issues remain. The first relates to Mr. Kelly's claim that a seventh lot, lot number 39, was taken from him by the TRPA without compensation or, if not, he claims that at the very least TRPA breached a mostly verbal contract arising from the "wrap-up" negotiations initiated in 1981 by Mr. Lahman.

It should be noted parenthetically, at least, that the Statute of Frauds probably defeats the parol contract claim, c.f. NRS 111.220(1), unless Mr. Kelly can prove some kind of estoppel exception to this doctrine. However, an estoppel argument fails for the same reason that the "taking" argument fails: both require proof of a lack of compensation or benefit to the claimant. Mr. Kelly received direct benefit and indirect compensation from the negotiations, even if he didn't get the hilltop building approvals. The list of actual and valuable consideration flowing to Mr. Kelly from the negotiations and the amended mapping process before, during and after 1982 is fairly lengthy:

1. He reconfigured the square-shaped pads on the lakefront so that they could accommodate the beautiful homes that now dot the shoreline. Their value was considerably enhanced in this process.

2. He eliminated the funicular access to the hilltop. Its elimination had not only become a Douglas County requirement for fire road purposes, but at least one appraiser, Steven Johnson, felt that the funicular diminished the value of the homes by as much as 25%.

3. He "borrowed" coverage from some areas such as the tennis court, and he "spent" it elsewhere.

4. He relocated some of the hilltop lots to areas where they created less of a relative erosion hazard than before, which, as it turns out, plays a significant role in the Court's determination to allow construction to proceed despite some of the IPES point scores. If they were in more hazardous locations on the ridge, TRPA's argument that Mr. Kelly should suffer the IPES staging process becomes a much more forceful one.

The Court cannot find any evidence of an enforceable promise by the TRPA that it would approve hilltop construction in exchange for the concessions made in July of 1982 memorialized in the Seventh Amended Map (*see* Exhibits 43 and 44). Mr. Kelly voluntarily signed the document (Exhibit 43) which erased lot 39. No express conditions precedent are of record. Both sides gave something and both sides took something as Uppaway developed.

As a final housekeeping detail, one aspect of the magnitude of the Court's "grandfathered land coverage" decision needs to be addressed. Conflicting evidence supports conflicting conclusions concerning the current scope of impervious surfaces covering Uppaway. Mr. Mahannah did a survey of sorts for his purposes but offered differing opinions on direct and cross-examination, a situation which did not go unnoticed by Mr. Owen (*compare for example* footnote 5, Part 1 Opening Brief p. 6 and Exhibit 7-19). Discussion by TRPA staff and board members when the funicular was changed to a roadway indicated that there was no net change in land coverage there, but the Court is not so sure. Certain parking lots, driveways, construction pads have all been changed since 1976, and the road leading to the water tank has been torn up so the Court can't say how much proportional reduction in coverage, if any, is necessary to assure that the six building envelopes don't exceed the gross adjudicated impervious coverage limits.

To resolve this issue, an independent study or survey will probably have to be commissioned, unless the parties can agree (which is probably wishful thinking).

* * * * *

The Third (and final) Conclusion which this Court has reached in respect of Mr. Kelly's claims appears in boldface on the next page.

IX. THIRD CONCLUSION

THOUGH HE DOES NOT POSSESS A VESTED RIGHT TO BUILDING APPROVALS FOR LOTS 33-38, ONLY ROUTINE ASPECTS OF THE 1987 PLAN AND ORDINANCES APPLY TO MR. KELLY, BECAUSE UPPAWAY'S "DEEMED APPROVED" STATUS GRANDFATHERS LAND COVERAGE ALLOCATIONS AND BECAUSE EFFECTIVE MITIGATION MEASURES ALREADY IN PLACE CAUSE NO JUST REASON FOR FURTHER IMPEDING THE BUILDOUT OF HIS PLANNED UNIT DEVELOPMENT.

X. CONCLUSION

As Dr. Margaret Davis suggests, Tahoe is a "world class" lake. Along with Russia's Lake Baykal, it has perhaps no equal, at least in the developed world.

Like an endangered species, the homes and habits of individuals are threatening Tahoe's sparkling environment. Concerned people have stepped forward in the past, but the planning effort has been marred by foibles and forensics as much as it has been marked by any real progress.

As Tahoe advances toward the 21st Century, it is caught inexorably between the competing demands of those who would build and those who would prevent building, between those who would come to visit and those who would come to stay. Its shores are blanketed by a crazy quilt of public and private ownership. Its time as a world class lake may be running short.

Now there is a new plan. Even before the plan gets underway, however, Mr. Kelly would have it scuttled. From their decks, his allies have loosed a broadside volley of legal and scientific cannon-fire, claiming that the plan is rudderless and will take Tahoe's rehabilitation efforts off course. After examining the evidence, this Court feels that Mr. Kelly's projectiles have missed their mark. The plan makes sense. Surely, new canvass needs to be stitched to the mainsail to make the plan seaworthy, but the ribbing and planking giving structure to the plan are solid enough.

While the Court has found the new plan to be sensible and fair and, for those reasons, essentially untouched by this decision, it is also sensible and fair to force Tahoe planners and governments to honor their previous Court ordered commitments to William Kelly. He has proven that he poses the Lake no harm.

* * * * *

Except as they might be inconsistent with this Decision, the legal conclusions entered in the Court's Order Partially Granting and Partially Denying Motions for Summary Judgment are ratified and confirmed. The State Defendants are dismissed as part of the final judgment. TRPA counsel are directed to prepare formal findings, conclusions and judgment consistent with the Summary Judgment Order and First and Second Discussion Sections and Conclusions; Messrs. Walsh and Yaple will do likewise for the Third Section and Conclusion, and after their respective work products are

shared, submit them to this Court for final review and execution.[3]

DATED this 12th day of July, 1990.

s/s Charles M. McGee
DISTRICT JUDGE

[3] I'd like to thank the law clerk I "borrowed" from Judge Robison, Don Wynn, my own law clerk, Joan Osborne, and particularly, Judge John Petty, Discovery Master for the Second Judicial District Court, for their help in this case. Among other contributions, Judge Petty spent days with counsel working through difficult discovery issues to get this case ready for trial.